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ABSTRACT

Teachers in the Chula Vista Rosebank Title IV Project, Individual Diagnosis and Prescription for a Total School, use these test manuals and corresponding teaching guides to measure and improve reading and mathematics skills of students, kindergarten through junior high school. Parts I and III contain tests and directions for administering the tests, and forms for recording beginning-of-year instructional level and for monitoring progress throughout the year. Based upon a continuum of 61 skills, the four reading tests cover: words in isolation; auditory and visual discrimination; comprehension; and structural analysis and locational skills. The two mathematics tests, computation and concepts and applications, cover arithmetic; geometry; measurement; problem solving; probability and statistics; relations and functions; and logical thinking. Parts II and IV contain learning activities, instructional games, parent activities, information on learning centers, and references to textbooks commonly used by the Chula Vista City School District. All correspond to the skill deficiencies diagnosed in parts I and III. (CP)

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TM 009 981 (1 OF 4)

CHULA VISTA CITY SCHOOL DISTRICT

# DIAGNOSIS AND PRESCRIPTION FOR READING AND MATHEMATICS

➡ *Part I* *Reading Diagnosis*
*Part II* *Reading Prescription*
*Part III* *Mathematics Diagnosis*
*Part IV* *Mathematics Prescription*

## PART I

# READING DIAGNOSIS

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CHULA VISTA CITY SCHOOL DISTRICT

# PART I
# READING DIAGNOSIS

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# CHULA VISTA DIAGNOSTIC READING PROGRAM

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# OVERVIEW OF THE CHULA VISTA DIAGNOSTIC PRESCRIPTIVE READING PROGRAM

The Rosebank Title IV Part C Project, Individual Diagnosis and Prescription for a Total School, is a monitoring/management system for reading and mathematics designed to be used by teachers in their classrooms. The Project was conceived by Chula Vista District Education Center staff members and developed and implemented by Project personnel at two schools: Rosebank Elementary (1974-1977) and Valley Vista Elementary (1976-1977).

The monitoring/management system is composed of four parts:

I Reading Diagnosis
II Reading Prescription
III Mathematics Diagnosis
IV Mathematics Prescription

This is Part I of the Project: Reading Diagnosis. It is composed of a series of tests to assess student strengths and weaknesses and prescriptive record forms to monitor growth in specific reading skills.

## ASSESSMENT TESTS

The first step in using the monitoring/management system is the assessment of the students' strengths and weaknesses determined by administering the tests. All of the tests except the San Diego Quick Assessment, Matching, and the Letter Recognition tests are group administered for efficient use of the teachers' time.

The San Diego Quick Assessment is a test which indicates a grade equivalent score based on reading words in isolation. It also may be used to diagnose student difficulties by interpretation of the errors students make.

The Auditory and Visual Discrimination Tests include visual tests of matching and recognition of upper and lower case letters of the alphabet. The section also includes auditory discrimination tests in which the student encodes and writes the letter(s) which represent the sound the teacher reads orally for these areas:

1. Initial Consonants
2. Rhyming
3. Final Consonants
4. 2-Letter Initial Consonants
5. Long and Short Vowels
6. Consonant Digraphs - Initial and Final
7. 2-Letter Final Consonants
8. 3-Letter Initial Consonants
9. Other Vowels

The Comprehension Tests include comparable questions for reading levels preprimer through junior high. It assesses comprehension skills in the following six areas:

1. Supporting Detail
2. Sequence
3. Relationship
4. Inference
5. Main Idea
6. Making Judgments

## Overview of the Chula Vista Diagnostic Prescriptive Reading Program (Cont.)

The Structural Analysis and Study Locational Skills Tests have been developed as a quick group survey to diagnose student's strengths and weaknesses in the following areas:

- Alphabetizing
- Compound Words
- Context Clues
- Synonyms
- Antonyms
- Contractions
- Syllables
- Prefixes
- Base Words
- Suffixes
- Homophones
- Table of Contents
- Heteronyms
- Homographs
- Guide Words
- Index
- Reference Skills
- Parts of a Book

The reading level of inventories or tests use vocabulary and skills appropriate to reading levels one through six.

Although the monitoring/management system may be initiated at any time, usually the tests would be administered for the first time at the beginning of each school year. The purpose of the first testing is to find the instructional (teaching) level of all pupils, or baseline data to establish the skills which individual students have mastered, and to indicate those skills which the student needs to learn.

### RECORD KEEPING

There are three main types of prescriptive records:

1. The Prescriptive Class Record shows, at a glance, students who need help in a certain skill. Skill groups are formed from these records. Individual student and whole class growth may be more easily followed using these records:
2. The Individual Student Prescriptive Record indicates the achievement and needs for each student. This record is helpful during conferences with students and parents and in completing report cards.

   The Individual Pupil Profile is very helpful in communicating reading skill development with student and parents. It is especially useful in pointing out strengths and weaknesses of individual students. Testing results have been shared with students and parents during student/teacher and parent/teacher conferences at the Project schools with overwhelming success.
3. The Individual Cumulative Record is kept in the student cumulative folder in the school's main office. Thus, as assessment continues in succeeding years the new information may be recorded.

To record the information, you will need four colored pencils - red for the baseline information, blue for the second testing period, orange for the third, and green for the last testing period. This makes a very clear picture of skill growth for the student and indicates what time of year the skill was mastered.

Once students are placed in books at their appropriate reading levels, they are also assigned to groups according to similar skill needs for specific instruction. These groups will change frequently as different skills are mastered.

After initial testing, all students should be reassessed at periodic intervals. Title IV-C teachers administer the inventories to all students four times during the year. Since these are traditional calendar schools, testing takes place in September, January (immediately after winter vacation), March, April (immediately after spring vacation) and late in May. Many teachers also do some testing in November before the first reporting period. Other teachers administer the inventories at the beginning of the school year and just before each reporting period.

In year-round schools, the initial test should be given when the student enters for the first nine weeks. Successive tests should be administered when the pupil returns after the three week vacation.

New pupils should be tested when they enter.

# WAYS TO ASSESS CHILDRENS READING SKILLS THROUGH OBSERVATION

The teacher's informal observations of growth are often more significant than many assessment devices. Assessment of students' skills is an on-going process. It can be a simple task to check a student's specific skills in an informal situation. Before beginning the observation, the teacher must take into consideration the following points:

1. The one skill that will be observed at a particular time.
2. The one child or small group that will be observed at a particular time.

Students may be observed and a check list maintained by the teacher while students are:

1. Playing a reading game.
2. Working on an activity in a reinforcement center.
3. Working in a skill group.
4. Engaging in an individual or group student/teacher conference.
5. Asking specific questions while the student is working on a project.
6. Reading orally to verify the answer to a specific question asked by the teacher.
7. Participating in playground activities.

It is essential that a check list be kept by the teacher while conducting an observational assessment. Although a teacher may have a general feeling about a student's achievement, documentation is necessary for future planning to meet the student's needs.

# CHULA VISTA READING SKILLS CONTINUUM

1. Matching Letters
2. Upper Case Letters
3. Lower Case Letters
4. Initial Consonants
5. Rhyming
6. Comprehension pp$^1$
7. Comprehension pp$^2$
8. Final Consonants
9. 2-Letter Initial Clusters
10. Comprehension P
11. Long and Short Vowels
12. Consonant Digraphs
13. Alphabetizing
14. Compound Words
15. Context Clues
16. Comprehension 1
17. Synonyms
18. Antonyms
19. Contractions
20. Syllables
21. Comprehension 2$^1$
22. Prefixes
23. Base Words
24. Suffixes
25. Homophones (homonyms)
26. Table of Contents
27. Comprehension 2$^2$
28. 2-Letter Final Clusters
29. 3-Letter Initial Clusters
30. Comprehension 3$^1$
31. Other Vowel Sounds
32. Comprehension 3$^2$
33. Synonyms
34. Antonyms
35. Base Words & Affixes
36. Prefixes (meaning)
37. Suffixes (meaning)
38. Syllables
39. Contractions
40. Context Clues
41. Alphabetizing
42. Table of Contents
43. Comprehension 4
44. Comprehension 5
45. Base Words and Affixes
46. Prefixes (meaning)
47. Base Words (meaning)
48. Suffixes (meaning)
49. Alphabetizing
50. Homophones - sound the same, with different meaning and spelling
51. Heteronyms-(diacritical markings)-same spelling, with different meaning and sound
52. Homographs-same spelling and sound, with different meaning
53. Guide Words
54. Index
55. Reference Skills
56. Parts of Book
57. Comprehension 6
58. Comprehension 7
59. Comprehension 8
60. Comprehension 9
61. Comprehension 10

## DIRECTIONS FOR ADMINISTERING THE
## SAN DIEGO QUICK ASSESSMENT OF WORD READING ABILITY

This test consists of three readiness lists and thirteen word lists graded from preprimer through 11th grade. The words within each list are of comparable difficulty.

**DIRECTIONS TO THE TEACHER FOR ADMINISTERING THE TEST:**

Cut out each list of ten words. Mount each list on a 3" x 5" card. Show only one card to the student at a time. The teacher should begin with a list two or three years below the child's presumed functioning reading level in school (or lower if there are suspected reading difficulties).

Tell the student to: *Read each list of words.*
*Say each word carefully.*

Accept as correct only those words which a student pronounces correctly (allow for non-standard dialects).

The accents and endings must be correct. For example, some children will say *a pár atas* for *ap a rá tus*, or *careful* instead of *carefully*. Neither of these is correct. They must be marked wrong.

**CAUTION**: DO NOT TELL THE CHILD THE CORRECT PRONOUNCIATION OF ANY WORD, this will invalidate the test for future use. Do not indicate to the student whether he/she is correct or incorrect. Just accept the answer and mark the record sheet accordingly.

**TO RECORD STUDENT RESPONSES:**

Use the Individual Student Record page 19, or the Alternate Individual Student Record page 23, to record the student's responses. The first test period, mark in the box with a red pencil on the line next to the word in column one. (At later testing periods, use columns 2, 3 or 4 for recording the student's responses.)

As the student reads the word list, make a colored check mark in the box beside each word missed (or each word correct, if preferred). When the student misses three words on a given list, stop testing, and do not continue with the remainder of the list. To diagnose a specific error, there is a small amount of room next to the word where exactly what the student says may be indicated.

San Diego Quick Assessment of Word Reading Ability (Cont.)

Because the number of words in each list is limited, one error is considered independent level, two errors are considered the student's instructional level, and three or more errors would be the pupil's frustration level.

## SCORING THE TEST TO INDICATE A GRADE LEVEL DESIGNATION:

There are three levels for reading readiness and three levels for first grade, so the teacher must divide the total correct responses by three to determine the grade placement for a child. Beginning with the list for second grade, there are ten words in each list, so each word correct is equivalent to one month gain in determining grade placement.

Instructions for determining a grade and month designation for each student are as follows:

> Example A. If a student gets all items correct on $RR^1$, misses two items on $RR^2$, and misses numbers 5, 7 and 8 on $RR^3$, stop the test at this point. Do not finish the $RR^3$ list. The student read ten correctly at $RR^1$, eight correctly at $RR^2$, and five correctly at $RR^3$ for a total of 23 correct. Divide 23 by three. The answer comes closer to eight than seven. So the child is reading at kindergarten-eight months.
>
> Example B. Another student read all items correctly at $RR^1$, $RR^2$ and $RR^3$. The student also read all the words correctly at the preprimer level and the primer level, but missed "when", "how" and "always" at the first grade level. Stop the test after "always" because this is where the student missed the third word. The pupil read everything correctly on the RR level, so the student would be reading at the 1.0 level. The student correctly read all the items at the preprimer and primer levels, and four items correctly at the first grade level. Again, divide by three. Twenty-four divided by three equals eight, so the pupil is reading at the 1.8 level.

San Diego Quick Assessment of Word Reading Ability (Cont.)

Example C. The last example is a student who read everything correctly at the RR, first, second, and third grade levels. The student missed two words at the fourth grade level, and "considered", "discussed" and "behaved" at the fifth grade level. When entering the fourth grade list, the student would be reading at the 4.0 level. At the end of the fourth grade list, the student would be reading at the 4.8 level since two items were missed at that level. Three items received correct responses at the fifth grade level before the test was stopped, so the teacher would add .3 to the 4.8, so this student is reading at the 5.1 level.

REMEMBER, the preceeding formula determines the frustration reading level of each student. When placing the student in material, be sure to drop down a level. If a child scores at the 5.4 level, place the child in approximately $4^2$ reading material. By the same token, if a child places at 2.4 on the San Diego Quick Assessment, this child would be placed in primer or first grade material. It is always best to have the child read a selection from the book to be assigned before actually making the placement. If it is difficult to make a decision as to the level in which the child should be placed, it is wise to place the child in the lower level. If the child is successful at that level, placement at the higher level may be made.

## TO MAKE A CLASS RECORD:

List the names of the class in the left-hand column. Teachers might transfer the grade and month scores obtained from the Individual Student Record to the boxes on the Class Record page 21. When the record is complete, the grouping of students will be obvious.

Note: If miscues are to be analyzed in detail for a few of the students who are reading below grade level, use the Alternate San Diego Quick Assessment Record page 23. As the student reads the word, record errors exactly as the student says them. Then look carefully at the errors and analyze the problems most common to the student.

TO ADMINISTER THE READINESS LISTS:

RR¹ - Be sure the child understands what "alike" and "different" mean. Ask the child:

*Is each pair of letters alike or different?*

RR² - Ask the child:

*How many of these letters can you name?*

RR³ - Children may point to the correct letter or the teacher may make a work sheet and have the children circle the correct letter. Read the word. Say to the child:

*Point to (or circle) the letter you think the word begins with.*

# TEST CARDS FOR
# SAN DIEGO QUICK ASSESSMENT

CVCSD/A215(102)6-77

## READING READINESS - PRIMER

| RR$^1$ | | RR$^2$ | RR$^3$ | | | |
|---|---|---|---|---|---|---|
| B | B | B | 1. | D | B | A |
| A | C | A | 2. | P | E | K |
| M | M | M | 3. | L | F | M |
| C | C | C | 4. | B | C | G |
| S | Q | S | 5. | O | S | P |
| J | J | J | 6. | A | B | J |
| T | T | T | 7. | D | G | T |
| H | H | H | 8. | A | H | B |
| D | L | D | 9. | D | I | M |
| W | M | W | 10. | W | G | J |

| Teacher's RR$^3$ | | |
|---|---|---|
| 1. bird | see | you |
| 2. pig | play | come |
| 3. mom | me | not |
| 4. car | at | with |
| 5. sad | run | jump |
| 6. jeep | go | help |
| 7. tag | and | is |
| 8. house | look | work |
| 9. door | can | are |
| 10. wig | here | this |

# TEST CARDS FOR
# SAN DIEGO QUICK ASSESSMENT

CVCSD/A215(103)6-77

## GRADES 1 - 6

road
live
thank
when
bigger
how
always
night
spring
today

our
please
myself
town
early
send
wide
believe
quietly
carefully

city
middle
moment
frightened
exclaimed
several
lonely
drew
since
straight

decided
served
amazed
silent
wrecked
improved
certainly
entered
realized
interrupted

scanty
business
develop
considered
discussed
behaved
splendid
acquainted
escaped
grim

bridge
commercial
abolish
trucker
apparatus
elementary
comment
necessity
gallery
relativity

# TEST CARDS FOR
# SAN DIEGO QUICK ASSESSMENT

## GRADES 7 - 11

amber
dominion
sundry
capillary
impetuous
blight
wrest
enumerate
daunted
condescend

capacious
limitation
pretext
intrigue
delusion
immaculate
ascent
acrid
binocular
embankment

conscientious
isolation
molecule
ritual
momentous
vulnerable
kinship
conservatism
jaunty
inventive

zany
jerkin
nausea
gratuitous
linear
inept
legality
aspen
amnesty
barometer

galore
rotunda
capitalism
prevaricate
risible
exonerate
superannuate
luxuriate
piebald
crunch

# INDIVIDUAL STUDENT RECORD
# SAN DIEGO QUICK ASSESSMENT

Child's Name ______________________

Color Key:
1st___ 2nd___
3rd___ 4th___

| | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| Matches Letters (RR$^1$) | | | | |
| Upper Case Letters (RR$^2$) | | | | |
| Initial Consonant Sounds (RR$^3$) | | | | |

| PP | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| see | | | | |
| play | | | | |
| me | | | | |
| at | | | | |
| run | | | | |
| go | | | | |
| and | | | | |
| look | | | | |
| can | | | | |
| here | | | | |

| Primer | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| you | | | | |
| come | | | | |
| not | | | | |
| with | | | | |
| jump | | | | |
| help | | | | |
| is | | | | |
| work | | | | |
| are | | | | |
| this | | | | |

| 1 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| road | | | | |
| live | | | | |
| thank | | | | |
| when | | | | |
| bigger | | | | |
| how | | | | |
| always | | | | |
| night | | | | |
| spring | | | | |
| today | | | | |

| 2 | | | | |
|---|---|---|---|---|
| our | | | | |
| please | | | | |
| myself | | | | |
| town | | | | |
| early | | | | |
| send | | | | |
| wide | | | | |
| believe | | | | |
| quietly | | | | |
| carefully | | | | |

| 3 | | | | |
|---|---|---|---|---|
| city | | | | |
| middle | | | | |
| moment | | | | |
| frightened | | | | |
| exclaimed | | | | |
| several | | | | |
| lonely | | | | |
| drew | | | | |
| since | | | | |
| straight | | | | |

| 4 | | | | |
|---|---|---|---|---|
| decided | | | | |
| served | | | | |
| amazed | | | | |
| silent | | | | |
| wrecked | | | | |
| improved | | | | |
| certainly | | | | |
| entered | | | | |
| realized | | | | |
| interrupted | | | | |

| 5 | | | | |
|---|---|---|---|---|
| scanty | | | | |
| business | | | | |
| develop | | | | |
| considered | | | | |
| discussed | | | | |
| behaved | | | | |
| splendid | | | | |
| acquainted | | | | |
| escaped | | | | |
| grim | | | | |

| 6 | | | | |
|---|---|---|---|---|
| bridge | | | | |
| commercial | | | | |
| abolish | | | | |
| trucker | | | | |
| apparatus | | | | |
| elementary | | | | |
| comment | | | | |
| necessity | | | | |
| gallery | | | | |
| relativity | | | | |

| 7 | | | | |
|---|---|---|---|---|
| amber | | | | |
| dominion | | | | |
| sundry | | | | |
| capillary | | | | |
| impetuous | | | | |
| blight | | | | |
| wrest | | | | |
| enumerate | | | | |
| daunted | | | | |
| condescend | | | | |

| 8 | | | | |
|---|---|---|---|---|
| capacious | | | | |
| limitation | | | | |
| pretext | | | | |
| intrigue | | | | |
| delusion | | | | |
| immaculate | | | | |
| ascent | | | | |
| acrid | | | | |
| binocular | | | | |
| embankment | | | | |

| 9 | | | | |
|---|---|---|---|---|
| conscientious | | | | |
| isolation | | | | |
| molecule | | | | |
| ritual | | | | |
| momentous | | | | |
| vulnerable | | | | |
| kinship | | | | |
| conservatism | | | | |
| jaunty | | | | |
| inventive | | | | |

| 10 | | | | |
|---|---|---|---|---|
| zany | | | | |
| jerkin | | | | |
| nausea | | | | |
| gratuitous | | | | |
| linear | | | | |
| inept | | | | |
| legality | | | | |
| aspen | | | | |
| amnesty | | | | |
| barometer | | | | |

| 11 | | | | |
|---|---|---|---|---|
| galore | | | | |
| rotunda | | | | |
| capitalism | | | | |
| prevaricate | | | | |
| risible | | | | |
| exonerate | | | | |
| superannuate | | | | |
| luxuriate | | | | |
| piebald | | | | |
| crunch | | | | |

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**CAUTION:** DO NOT CORRECTLY PRONOUNCE WORD TO STUDENTS.

Color Key:
1st___2nd___
3rd___4th___

## SAN DIEGO QUICK ASSESSMENT
## OPTIONAL CLASS RECORD

| NAME | $RR^1$ | $RR^2$ | $RR^3$ | Pre-Prim | Prim. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | |

Child's Name ________________

Matches Letters (RR$^1$) ________________ 23
Upper Case Letters (RR$^2$) ________________
Initial Consonant Sounds (RR$^3$) ________________

Color Key:
1st___ 2nd___
3rd___ 4th___

# ALTERNATE
# INDIVIDUAL STUDENT RECORD
# SAN DIEGO QUICK ASSESSMENT
(Use to record exact student responses)

**PP**
see ________________
play ________________
me ________________
at ________________
run ________________
go ________________
and ________________
look ________________
can ________________
here ________________

**Primer**
you ________________
come ________________
not ________________
with ________________
jump ________________
help ________________
is ________________
work ________________
are ________________
this ________________

**1**
road ________________
live ________________
thank ________________
when ________________
bigger ________________
how ________________
always ________________
night ________________
spring ________________
today ________________

**2**
our ________________
please ________________
myself ________________
town ________________
early ________________
send ________________
wide ________________
believe ________________
quietly ________________
carefully ________________

**3**
city ________________
middle ________________
moment ________________
frightened ________________
exclaimed ________________
several ________________
lonely ________________
drew ________________
since ________________
straight ________________

**4**
decided ________________
served ________________
amazed ________________
silent ________________
wrecked ________________
improved ________________
certainly ________________
entered ________________
realized ________________
interrupted ________________

**5**
scanty ________________
business ________________
develop ________________
considered ________________
discussed ________________
behaved ________________
splendid ________________
acquainted ________________
escaped ________________
grim ________________

**6**
bridge ________________
commercial ________________
abolish ________________
trucker ________________
apparatus ________________
elementary ________________
comment ________________
necessity ________________
gallery ________________
relativity ________________

**7**
amber ________________
dominion ________________
sundry ________________
capillary ________________
impetuous ________________
blight ________________
wrest ________________
enumerate ________________
daunted ________________
condescend ________________

**8**
capacious ________________
limitation ________________
pretext ________________
intrigue ________________
delusion ________________
immaculate ________________
ascent ________________
acrid ________________
binocular ________________
embankment ________________

**9**
conscientious ________________
isolation ________________
molecule ________________
ritual ________________
momentous ________________
vulnerable ________________
kinship ________________
conservatism ________________
jaunty ________________
inventive ________________

**10**
zany ________________
jerkin ________________
nausea ________________
gratuitous ________________
linear ________________
inept ________________
legality ________________
aspen ________________
amnesty ________________
barometer ________________

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**11**
galore ________________
rotunda ________________
capitalism ________________
prevaricate ________________
risible ________________
exonerate ________________
superannuate ________________
luxuriate ________________
piebald ________________
crunch ________________

## DIRECTIONS FOR ADMINISTERING THE
## VISUAL AND AUDITORY DISCRIMINATION TESTS (Phonics)

This battery of tests should give the teacher a quick and adequate means of assessing visual and auditory discrimination including encoding skills (phonics). Although this is not the most precise way of testing phonetic skills, it is the most efficient way for the classroom teacher. A teacher may test small groups of children who demonstrate they need the skill assessed. However, since these are group tests, it should be noted encoding skills are being tested rather than decoding skills.

There will be two exceptions to the group testing. Tests #1, #2 and #3 will be given on an individual basis. In Test #1, the student will tell the teacher if the letters are alike or different. In Tests #2 and #3, the child will say the names of the letters of the alphabet as the teacher points to them. If a teacher feels that a kindergarten or first grade child is able to take Tests #4 and #8, but is not able to write the letters legibly, the student may answer orally.

NOTE: Although there is no agreed upon heirarchy of skills in reading, the tests are numbered to indicate a suggested sequence of skills to be tested. If skills are being introduced in a different order, change the suggested testing order to coincide with the reading program being used.

Instructions which are to be read orally to the students and examples of the skill to be tested are given at the beginning of each test. Give the students as many examples as necessary. Make sure actual items on the test are not used. The purpose is to determine the students' discrimination skills, not their test-taking skills.

Included in the Auditory and Visual Discrimination section are two student answer sheets. Although any paper will do, it is easier when the paper is already numbered for them. To conserve paper, cut the sheets and use only the portion that is necessary for the student(s) responses. Any extra answer sections may be saved for a later testing period.

Teachers of Kindergarten children generally will begin with the upper case alphabet Test #2 and then go back to the matching Test #1 for those children who do not master Test #2. If students have mastery of the alphabet Tests #2 and #3, give the Initial Consonant Test #4. After correcting and recording the test(s), give the next test if appropriate. Continue testing until students have been given a chance to show what skills they have mastered.

Visual and Auditory Discrimination (Cont.)

Teachers of First Grade children should begin with the lower case alphabet Test #3. Go back to an easier test for students who do less than half correctly. For any student who masters or comes close to mastery on the lower case alphabet test, give the next test. Follow the same procedure of testing, correcting, recording and then going to the next test for any students who achieve near mastery.

Teachers of Second, Third Grade children should begin with the Initial Two-Letter Consonant Cluster, Test #9. Start with an easier test for any students who score 1.5 or lower on the San Diego Quick Assessment. For any student who masters or comes close to mastery on the Initial Two-Letter Clusters Test #9, give the next test. Then follow the same procedure of testing, correcting, recording and going to the next test for any student who achieves near mastery. If a student is reading at 4th grade level, it may be more efficient to begin with Final Two-Letter Cluster Test #28 and proceed from there.

Teachers of Fourth, Fifth, Sixth, Seventh and Eighth Grade students. If the student reads below the fifth grade level, begin with the Final Two-Letter Blend Test #28. If the student reads at the fifth grade level or above on the SDQA, start with the Other Vowel Test #31. If students have mastery of the Other Vowel Test, it may be assumed that there is no further need for phonetic diagnosis. However, if the students have difficulty with this test, begin giving the tests one at a time in reverse order, i.e., Final Two-Letter Clusters, Consonant Digraphs, Long and Short Vowels, until their level of mastery is reached. Follow this same procedure of testing, correcting, recording and going onto the next step for students who need more testing. Remember that in all cases, a teacher's professional judgment may supersede the above guidelines. For example, if an upper grade student has evidenced serious disability, that student probably should begin at a lower level rather than subject the student to additional failure.

At the bottom of each page, there is a statement which indicates how many correct answers are needed for mastery. In most cases, this number is based on 85% correct required for mastery.

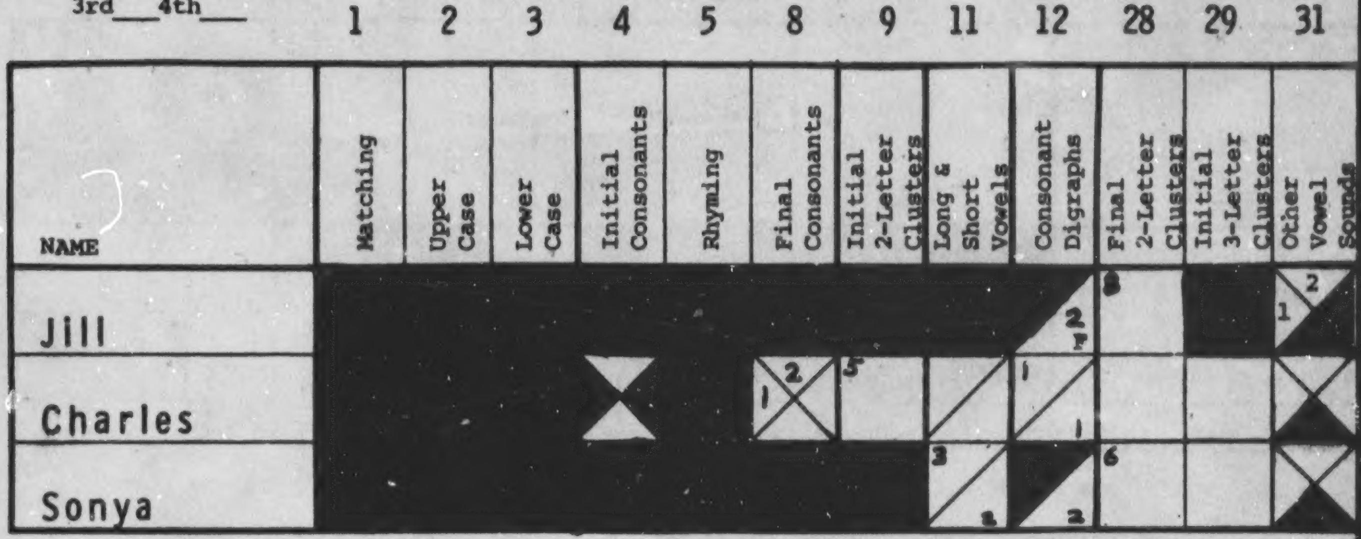
There are three alternative sets of record sheets for the Visual and Auditory Discrimination portion of the tests. The first record sheet, page 57 is a Prescriptive Class Record that divides most skills into two to four sections so the teacher may concentrate on a few letters or sounds at a time and then test the children for mastery of that section.

To use this record sheet, the teacher should refer to the Key for Divided Comprehensive Visual and Auditory Discrimination Record. Color in the triangular section of the box to indicate that a student has mastery of one or more parts of the individual skill test.

For example:

PRESCRIPTIVE CLASS RECORD
VISUAL AND AUDITORY DISCRIMINATION
DIVIDED COMPREHENSIVE RECORD SHEET

Color Key:
1st___ 2nd___
3rd___ 4th___



| | 1 | 2 | 3 | 4 | 5 | 8 | 9 | 11 | 12 | 28 | 29 | 31 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NAME | Matching | Upper Case | Lower Case | Initial Consonants | Rhyming | Final Consonants | Initial 2-Letter Clusters | Long & Short Vowels | Consonant Digraphs | Final 2-Letter Clusters | Initial 3-Letter Clusters | Other Vowel Sounds |
| Jill | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ◩ 2<br>F | 8 | ■ | ◩ 1 2 |
| Charles | ■ | ■ | ■ | ◩ | ■ | 1 2 | 5 | | 1 1 | | | ◩ |
| Sonya | ■ | ■ | ■ | ■ | ■ | ■ | ■ | 3 1 | ◩ 2 | 6 | | ◩ |

Jill mastered Tests #1, #2, #3, #4, #5, #8, #9, #11, #29 and Initial Consonant Digraphs, or half of Test #12. She correctly answered 8 of 16 questions in Test #28 Final 2-Letter Consonant Clusters, and part 3 of the Other Vowel Sounds, Test #31.

Charles mastered Tests #1, #2, #3, #5, parts 1 and 3 of Test #4 Initial Consonants, a scattered few on Test #8 Final Consonants, 5 on Test #9 Initial Consonant Clusters, a few on Test #12 Consonant Digraphs, and then the testing was stopped.

Sonya mastered Tests #1, #2, #3, #4, #5, #8, #9 and part 1 of Initial Consonant Digraphs, Test #12. She also correctly answered some on Long and Short Vowels Test #11, and a few on Final 2-Letter Clusters. No other tests were given.

Prescriptive Record, page 59, is a comprehensive sheet designed so that the teacher can mark the box to indicate the student has mastered the skill. When the students have been given the test, but have not mastered the skill, it is helpful to write the number correct in very small numerals. The next time the test is given, it is possible to see the amount of growth, even though the student does not reach mastery again. This form is especially appropriate for grades three to eight.

VISUAL AND AUDITORY DISCRIMINATION
COMPREHENSIVE RECORD SHEET

Color Key:
1st___ 2nd___
3rd___ 4th___

| NAME | 1 Matching | 2 Upper Case | 3 Lower Case | 4 Initial Consonants | 5 Rhyming | 8 Final Consonants | 9 Initial 2-Letter Clusters | 11 Long & Short Vowels | 12 Consonant Digraphs | 28 Final 2-Letter Clusters | 29 Initial 3-Letter Clusters | 31 Other Vowel Sounds |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cliff | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | 6 | 4 | 5 |
| Norma | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ F | 5 |  |  |
| Carlo | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | I / F | 3 | 5 |  |
| Mark | ■ | ■ | ■ | ■ | ■ | 14 | 12 | L3 / 1S | I2 / 2F |  |  |  |
| Denise | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | 7 | 6 |

Prescription Records, pages 61-79, are actually a series of record forms which consist of one form for each skill. On each form, there is a place to mark each individual item, i.e., b, s, m, g, instead of just Initial Consonants as a whole. Teachers of kindergarten and first grade find this set of forms especially helpful. Many teachers of second and third grade children find that using a combination of forms, pages 59 and 61-79, is useful. They keep the class record on the Comprehensive form, and then keep individual item analysis for the few children who have not shown mastery.

PRESCRIPTIVE RECORD

INITIAL CONSONANTS 4

Color Key:
1st___ 2nd___
3rd___ 4th___

| NAME | b | s | m | g | f | d | w | z | j | n | p | l | v | r | y | q | h | t | c |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wayne | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  | ✓ | ✓ |  | ✓ | ✓ | ✓ |
| Sherrie | ✓ | ✓ | ✓ |  |  | ✓ |  |  |  | ✓ |  | ✓ |  | ✓ |  |  | ✓ | ✓ |  |
| John | b | ✓ |  |  |  | d |  |  | ✓ | ✓ | p |  |  |  |  | q |  |  |  |
| Roberto | ✓ | ✓s | ✓ | ✓ |  | ✓ | w |  |  | ✓ | ✓ | ✓l | ✓ | ✓ |  |  | h✓ | ✓ |  |
| Henry |  | ✓ | m |  |  |  |  | z |  | ✓ |  | ✓ | v |  |  |  | ✓ | t✓ |  |
| Trish | ✓ | ✓ | ✓ | g | ✓ | ✓ | ✓ | ✓ | j | ✓ | ✓ | ✓ |  | ✓r |  | ✓ | ✓ | ✓ | c |
|  |  |  |  |  | f |  |  |  |  | n |  |  |  |  | y |  |  |  |  |

Use a color key for recording the test results on the record form. By using a different color for each testing period, the teacher has a better insight into the child's growth and learning pattern.

After children have achieved mastery, they are not tested again during that school year unless, by observation, the teacher decides that mastery has not been maintained. Even though there is a record in the cum folder, it is recommended that each teacher survey the class at the beginning of the school year, rather than rely on previous information. The time spent at the beginning of each year to learn about the children is time spent profitably.

# MATCHING

1

(Same - Different)

O Z

S S

B P

g g

r n

F F

W M

a f

z s

u n

*100% is considered mastery.*

# LETTER RECOGNITION TEST
# UPPER CASE ALPHABET

2

1. B A I S C D F

2. E P T M L R

3. Z J U H G W X

4. Q K V Y N O

*100% is considered mastery.*

## LETTER RECOGNITION TEST
## LOWER CASE ALPHABET

1. r o n l m y t

2. v k p z i a j

3. u s h b c g

4. w d f x q e

*100% is considered mastery.*

4

# CONSONANT SOUNDS

(initial position)

Nonsense Words

**DIRECTIONS:** I am going to read some words that do not make sense. Listen carefully. Beside the correct number on your answer sheet, write the one letter that represents the sound you hear at the beginning of each word.

**NOTE:** *Since this is a test on sounds, not on spelling, any answer in parentheses should be accepted.*

Example A - rin (r)

(1)

| | | |
|---|---|---|
| 1. | bif | (b) |
| 2. | sud | (s,c) |
| 3. | med | (m) |
| 4. | gan | (g) |
| 5. | fab | (f) |

(2)

| | | |
|---|---|---|
| 6. | dit | (d) |
| 7. | wat | (w) |
| 8. | zab | (z) |
| 9. | jop | (j,g) |
| 10. | nog | (n) |

Example B - gam (g)

(3)

| | | |
|---|---|---|
| 11. | paf | (p) |
| 12. | lib | (l) |
| 13. | vid | (v) |
| 14. | rak | (r) |
| 15. | yar | (y) |

(4)

| | | |
|---|---|---|
| 16. | qui | (q) |
| 17. | hep | (h) |
| 18. | tat | (t) |
| 19. | cam | (c,k) |

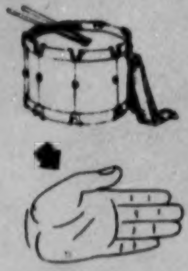
*16 correct is considered mastery.*

NAME ____________________

Rhyming: Circle yes if the words rhyme. Circle no if the words do not rhyme.

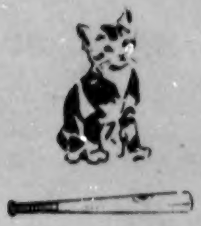
*Teacher: Be sure the student knows the names of the pictures; i.e., "cat", not kitten.*

Sample:



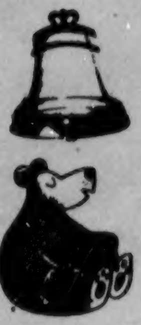
[✓ yes]
no

1.



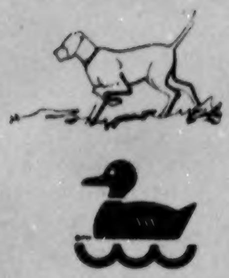
yes
no

2.



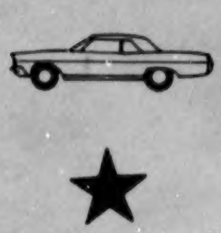
yes
no

3.



yes
no

4.



yes
no

*4 correct is considered mastery.*

## CONSONANT SOUNDS

(final position)

Nonsense Words

8

**DIRECTIONS:** I am going to read some words that do not make sense. Listen carefully. Beside the correct number on your answer sheet, write the one letter that represents the sound that you hear at the end of each word.

**NOTE:** *Since this is a test on sounds, not on spelling, any answer in parentheses should be accepted.*

Example A - jad (d)

Example B - san (n)

(1)

1. mep (p)
2. giz (z,s)
3. vin (n)

(2)

4. zel (l)
5. dit (t)
6. tof (f)

(3)

7. dag (g)
8. mub (b)
9. bic (c,k)

(4)

10. sim (m)
11. rad (d)
12. dar (r)
13. mus (s)

*11 correct is considered mastery.*

## 2 - LETTER CONSONANT CLUSTERS (BLENDS) 9

### (initial position)

### Nonsense Words

**DIRECTIONS:** I am going to read some words that do not make sense. Listen very carefully. Beside the correct number on your answer sheet, write the two letters that represent the sound you hear at the beginning of each word.

**NOTE:** *Since this is a test on sounds, not on spelling, any answer in parentheses should be accepted.*

| | | | | | |
|---|---|---|---|---|---|
| Example A - | stad | (st) | Example B - | dran | (dr) |
| 1. | frop | (fr) | 11. | crag | (cr, kr) |
| 2. | plat | (pl) | 12. | glud | (gl) |
| 3. | trin | (tr) | 13. | smar | (sm) |
| 4. | blug | (bl) | 14. | scop | (sc, sk) |
| 5. | spax | (sp) | 15. | bren | (br) |
| 6. | gris | (gr) | 16. | stig | (st) |
| 7. | swit | (sw) | 17. | flam | (fl) |
| 8. | clag | (cl, kl) | 18. | snab | (sn) |
| 9. | slad | (sl) | 19. | prat | (pr) |
| 10. | drit | (dr) | 20. | twiz | (tw) |

*17 correct is considered mastery.*

# LONG AND SHORT VOWELS

## Nonsense Words

### LONG VOWELS

DIRECTIONS: I am going to read some words that do not make sense. Listen carefully. Beside the correct number on your answer sheet, write the one letter that represents the long vowel sound you hear.

NOTE: *Since this is a test on sounds, not on spelling, any answer in parentheses should be accepted. Use the key word in parentheses to pronounce the unknown word.*

Example: blate (long a)

| | | | |
|---|---|---|---|
| 1. | te | (ē) (y) | *(be)* |
| 2. | mugle | (ū) | *(bugle)* |
| 3. | kile | (ī) (y) | *(tile)* |
| 4. | mave | (ā) | *(pave)* |
| 5. | kete | (ē) (y) | *(Pete)* |
| 6. | tope | (ō) | *(rope)* |
| 7. | huse | (ū) | *(fuse)* |
| 8. | pite | (ī) (y) | *(kite)* |
| 9. | fote | (ō) | *(note)* |
| 10. | zake | (ā) | *(take)* |

### SHORT VOWELS

DIRECTIONS: I am going to read some words that do not make sense. Listen carefully. Beside the correct number on your answer sheet, write the one letter that represents the short vowel sound you hear.

Example: lig (short i)

| | | | |
|---|---|---|---|
| 1. | rab | (ă) | *(tab)* |
| 2. | kig | (ĭ) | *(fig)* |
| 3. | doss | (ŏ) | *(moss)* |
| 4. | fud | (ŭ) | *(mud)* |
| 5. | fot | (ŏ) | *(cot)* |
| 6. | det | (ĕ) | *(net)* |
| 7. | rup | (ŭ) | *(cup)* |
| 8. | dag | (ă) | *(tag)* |
| 9. | zib | (ĭ) | *(bib)* |
| 10. | lem | (ĕ) | *(hem)* |

*8 correct in each section is considered mastery.*

12

## CONSONANT DIGRAPHS

### (initial position)

### Nonsense Words

**DIRECTIONS:** I am going to read some words that do not make sense. Listen carefully. Beside the correct number on your answer sheet, write the first two letters that represent the sound you hear at the beginning of each word.

Example A - chad (ch)

(1) 1. shim (sh) 2. chep (ch) 3. thab (th)

4. whib (wh) 5. phoz (ph)

## CONSONANT DIGRAPHS

### (final position)

### Nonsense Words

**DIRECTIONS:** I am going to read some words that do not make sense. Listen carefully. Beside the correct number on your answer sheet, write the two letters that represent the sound you hear at the end of each word.

**NOTE:** *Since this is a test on sounds, not on spelling, any answer in parentheses should be accepted.*

Example A - lurch (ch)

(2) 1. bosh (sh) 2. meech (ch) 3. brath (th)

4. miph (ph,gh) 5. fing (ng)

*100% correct in each section is considered mastery.*

## 2 - LETTER CONSONANT CLUSTERS (BLENDS)

### (Final Position)

### Nonsense Words

**DIRECTIONS:** I am going to read some words that do not make sense. Listen carefully. Beside the correct number on your answer sheet, write the two letters that represent the final sound you hear at the end of each word.

**NOTE:** *Since this is a test on sounds, not on spelling, any answer in parentheses should be accepted.*

Example: selt (lt)

| | | |
|---|---|---|
| 1. | glock | (ck) |
| 2. | loast | (st) |
| 3. | zorld | (ld) |
| 4. | mamp | (mp) |
| 5. | wank | (nk,nc) |
| 6. | zard | (rd) |
| 7. | fland | (nd) |
| 8. | lant | (nt) |
| 9. | kisk | (sk,sc) |
| 10. | bisp | (sp) |
| 11. | velt | (lt) |
| 12. | wilk | (lk,lc) |
| 13. | luft | (ft) |
| 14. | selp | (lp) |
| 15. | zept | (pt) |
| 16. | blorn | (rn) |

*14 correct is considered mastery.*

## 3 - LETTER CONSONANT CLUSTERS (BLENDS)

### (initial position)

### Nonsense Words

DIRECTIONS: I am going to read some words that do not make sense. Listen carefully. Beside the correct number on your answer sheet, write the first three letters that represent the sound you hear at the beginning of each word.

NOTE: *Since this is a test on sounds, not on spelling, any answer in parentheses should be accepted.*

Example: shrum (shr)

| | | |
|---|---|---|
| 1. | throam | (thr) |
| 2. | strick | (str) |
| 3. | splam | (spl) |
| 4. | squit | (squ,sqw,skw,scw) |
| 5. | scroaz | (scr,skr) |
| 6. | shrote | (shr) |
| 7. | sprim | (spr) |

*6 correct is considered mastery.*

## OTHER VOWEL SOUNDS

(vowel digraphs, diphthongs, and "r" controlled)

Nonsense Words

**DIRECTIONS:** I am going to read some words that do not make sense. Listen carefully. Sometimes two vowels work together and have one sound. Some of these vowels are "oo," "oi," and "oy." (*Spell vowel combinations.*) Also, certain consonants, such as r and w, after a vowel, change the sound of the vowel. If a word has a vowel team, write the two vowels beside the number on your answer sheet. If a word has a vowel changed by a consonant, write the vowel and the consonant on your answer sheet.

**NOTE:** *Since this is a test on sounds, not on spelling, any answer in parentheses should be accepted. Use the key word in parentheses to pronounce the unknown word.*

Example A - blorn (orn) (*scorn*)

(1)

1. fay (ai,ay,ei,ea,ey) (*stay*)
2. weet (ee,ea,ie,ei,ey)(*beet*)
3. fie (ie,ey,ai) (*pie*)
4. soat (oa,ow,ou,oe) (*boat*)
5. kood (oo,ew,ou,ue, ui, eu, oe) (*food*)
6. dook (oo) (*cook*)
7. taw (au,aw) (*saw*)

Example B - zawn (aw,au) (*lawn*)

(2)

8. touse (ou,ow) (*house*)
9. loy (oy,oi) (*boy*)

(3)

10. dar (ar) (*far*)
11. lurt (ur,er,ir) (*hurt*)
12. zore (or) (*more*)

*Mastery for section one is missing not more than 2 items. Mastery for sections two and three is the child making no errors.*

## STUDENT ANSWER SHEET

NAME____________

**Initial Consonants #4**

1. ____________
2. ____________
3. ____________
4. ____________
5.
6. ____________
7. ____________
8. ____________
9. ____________
10.
11. ____________
12. ____________
13. ____________
14. ____________
15.
16. ____________
17. ____________
18. ____________
19. ____________

*16 = Mastery*

NAME____________

**Final Consonants #8**

1. ____________
2. ____________
3.
4. ____________
5. ____________
6.
7. ____________
8. ____________
9.
10. ____________
11. ____________
12. ____________
13. ____________

*11 = Mastery*

**Consonant Digraphs #12**
**Initial Position**

1. ____________
2. ____________
3. ____________
4. ____________
5. ____________

*5 = Mastery*

**Final Position**

1. ____________
2. ____________
3. ____________
4. ____________
5. ____________

*5 = Mastery*

NAME____________

**2-Letter Consonant Clusters - (Blends) Initial Position #9**

1. ____________
2. ____________
3. ____________
4. ____________
5. ____________
6. ____________
7. ____________
8. ____________
9. ____________
10. ____________
11. ____________
12. ____________
13. ____________
14. ____________
15. ____________
16. ____________
17. ____________
18. ____________
19. ____________
20. ____________

*17 = Mastery*

STUDENT ANSWER SHEET

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STUDENT ANSWER SHEET

STUDENT ANSWER SHEET

NAME ____________

**Long Vowels** #11

1. ____________
2. ____________
3. ____________
4. ____________
5. ____________
6. ____________
7. ____________
8. ____________
9. ____________
10. ____________

*8 = Mastery.*

**Short Vowels** #11

1. ____________
2. ____________
3. ____________
4. ____________
5. ____________
6. ____________
7. ____________
8. ____________
9. ____________
10. ____________

*8 = Mastery.*

NAME ____________

**2-Letter Consonant Clusters (Blends) Final Position** #28

1. ____________
2. ____________
3. ____________
4. ____________
5. ____________
6. ____________
7. ____________
8. ____________
9. ____________
10. ____________
11. ____________
12. ____________
13. ____________
14. ____________
15. ____________
16. ____________

*14 = Mastery*

NAME ____________

**3-Letter Consonant Clusters (Blends) Initial Position** #29

1. ____________
2. ____________
3. ____________
4. ____________
5. ____________
6. ____________
7. ____________

*6 = Mastery.*

**Other Vowel Sounds** #31

1. ____________
2. ____________
3. ____________
4. ____________
5. ____________
6. ____________
7.
8. ____________
9.
10. ____________
11. ____________
12. ____________

*5 = Mastery 1-7*
*100 % = Mastery 8-12*

ANSWER KEY AUDITORY DISCRIMINATION (Phonics)

**#4 Initial Consonants**

1. b
2. s
3. m
4. g
5. f
6. d
7. w
8. z
9. j, g
10. n
11. p
12. l
13. v
14. r
15. y
16. q
17. h
18. t
19. c, k

**#8 Final Consonants**

1. p
2. z, s
3. n
4. l
5. t
6. f
7. g
8. b
9. c, k
10. m
11. d
12. r
13. s

**#9 2-Letter Cons. Clusters Initial Position**

1. fr
2. pl
3. tr
4. bl
5. sp
6. gr
7. sw
8. cl, kl
9. sl
10. dr
11. cr, kr
12. gl
13. sm
14. sc, sk
15. br
16. st
17. fl
18. sn
19. pr
20. tw

**#12 Consonant Digraphs Initial Position**

1. sh
2. ch
3. th
4. wh
5. ph

**Final Position**

1. sh
2. ch
3. th
4. ph, gh
5. ng

**#11**

**Long Vowels**

1. e, y
2. u
3. i, y
4. a
5. e, y
6. o
7. u
8. i, y
9. o
10. a

**Short Vowels**

1. a
2. i
3. o
4. u
5. o
6. e
7. u
8. a
9. i
10. e

**#28 2-Letter Cons. Clusters Final Position**

1. ck
2. st
3. ld
4. mp
5. nk, nc
6. rd
7. nd
8. nt
9. sk, sc
10. sp
11. lt
12. lk, lc
13. ft
14. lp
15. pt
16. rn

**#29 3-Letter Cons. Clusters Initial Position**

1. thr
2. str
3. spl
4. squ, sqw, skw scw
5. scr, skr
6. shr
7. spr

**#31 Other Vowel Sounds**

1. ai, ay, ei, ea, ey
2. ee, ea, ie, ei, ey
3. ie, ey, ai
4. oa, ow, ou, oe
5. oo, ew, ou, ue, ui, eu, oe
6. oo
7. au, aw
8. ou, ow
9. oy, oi
10. ar
11. ur, er, ir
12. or

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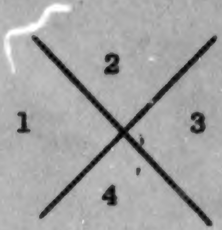
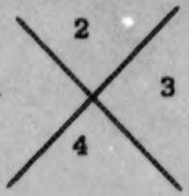
Key for Divided Comprehensive Visual and Auditory Discrimination Prescriptive Class Record.

Upper Case



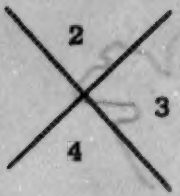
1. B A I S C D F
2. E P T M L R
3. Z J U H G W X
4. Q K V Y N O

Lower Case



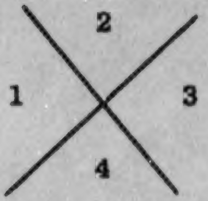
1. r o n l m y t
2. v k p z i a j
3. u s h b c g
4. w d f x q e

Consonant Sounds
(Initial Position)



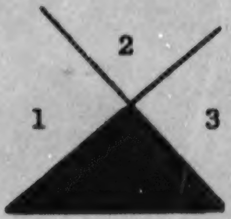
1. b s m g f
2. d w z j n
3. p l v r y
4. q h t c k

Consonant Sounds
(Final Position)



1. p z n
2. l t f
3. g b c(k)
4. m d r s

Consonant Blends
(Initial Position)



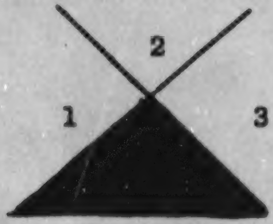
1. fr tr gr dr cr br pr
2. pl bl cl(kl) sl gl fl
3. sc/sk, sw, st, sp, sn, sm, tw

Consonant Digraphs
(Initial Position)

Initial
Final

1. sh ch th wh ph
2. sh ch th ph(gh) ng

Other Vowels



1. Vowel Digraphs:
   ay/ai/ei/ey, ee/ea/y/ie, ie/ey/ai, oa/ow/ou/oe, oo/ew/ou/ue/ui, oo, au/aw
2. Diphthongs:
   ou/ow, oy/oi
3. R-Controlled:
   ar, ur/er/ir, or

# PRESCRIPTIVE CLASS RECORD
# VISUAL AND AUDITORY DISCRIMINATION
# DIVIDED COMPREHENSIVE RECORD

Color Key:
1st____ 2nd____
3rd____ 4th____

| NAME | 1<br>Matching | 2<br>Upper Case | 3<br>Lower Case | 4<br>Initial Consonants | 5<br>Rhyming | 8<br>Final Consonants | 9<br>Initial 2-Letter Clusters | 11<br>Long & Short Vowels | 12<br>Consonant Digraphs | 28<br>Final 2-Letter Clusters | 29<br>Initial 3-Letter Clusters | 31<br>Other Vowel Sounds |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2<br>1 3<br>4 | 2<br>1 3<br>4 | 2<br>1 3<br>4 | | 2<br>1 3<br>4 | | L<br>S | I<br>F | | | 2<br>1 3 |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | 2<br>1 3<br>4 | 2<br>1 3<br>4 | 2<br>1 3<br>4 | | 2<br>1 3<br>4 | | L<br>S | I<br>F | | | 2<br>1 3 |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | 2<br>1 3<br>4 | 2<br>1 3<br>4 | 2<br>1 3<br>4 | | 2<br>1 3<br>4 | | L<br>S | I<br>F | | | 2<br>1 3 |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

CVCSD/A215(017)6-77

Color Key:
1st___ 2nd___
3rd___ 4th___

### PRESCRIPTIVE CLASS RECORD
### VISUAL AND AUDITORY DISCRIMINATION
### COMPREHENSIVE RECORD

| NAME | 1 Matching | 2 Upper Case | 3 Lower Case | 4 Initial Consonants | 5 Rhyming | 8 Final Consonants | 9 Initial 2-Letter Clusters | 11 Long & Short Vowels | 12 Consonant Digraphs | 28 Final 2-Letter Clusters | 29 Initial 3-Letter Clusters | 31 Other Vowel Sounds | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | L S | I F | | | | |
| | | | | | | | | L S | I F | | | | |
| | | | | | | | | L S | I F | | | | |
| | | | | | | | | L S | I F | | | | |
| | | | | | | | | L S | I F | | | | |
| | | | | | | | | L S | I F | | | | |
| | | | | | | | | L S | I F | | | | |
| | | | | | | | | L S | I F | | | | |
| | | | | | | | | L S | I F | | | | |
| | | | | | | | | L S | I F | | | | |
| | | | | | | | | L S | I F | | | | |
| | | | | | | | | L S | I F | | | | |
| | | | | | | | | L S | I F | | | | |
| | | | | | | | | L S | I F | | | | |
| | | | | | | | | L S | I F | | | | |
| | | | | | | | | L S | I F | | | | |
| | | | | | | | | L S | I F | | | | |
| | | | | | | | | L S | I F | | | | |
| | | | | | | | | L S | I F | | | | |
| | | | | | | | | L S | I F | | | | |
| | | | | | | | | L S | I F | | | | |
| | | | | | | | | L S | I F | | | | |
| | | | | | | | | L S | I F | | | | |
| | | | | | | | | L S | I F | | | | |
| | | | | | | | | L S | I F | | | | |
| | | | | | | | | L S | I F | | | | |
| | | | | | | | | L S | I F | | | | |
| | | | | | | | | L S | I F | | | | |
| | | | | | | | | L S | I F | | | | |
| | | | | | | | | L S | I F | | | | |
| | | | | | | | | L S | I F | | | | |
| | | | | | | | | L S | I F | | | | |
| | | | | | | | | L S | I F | | | | |

50

Color Key:
1st___ 2nd___
3rd___ 4th___

PRESCRIPTIVE CLASS RECORD

MATCHING

ALPHABET - UPPER CASE LETTERS $\frac{1}{2}$

| | Matching | B | A | I | S | C | D | F | E | P | T | M | L | R | Z | J | U | H | G | W | X | Q | K | V | Y | N | O |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | B | | | | | | F | | | | | | R | | | | | | W | | | | | | N | |
| | | | A | | | | | | E | | | | | | Z | | | | | | X | | | | | | O |
| | | | | I | | | | | | P | | | | | | J | | | | | | Q | | | | | |
| | | | | | S | | | | | | T | | | | | | U | | | | | | K | | | | |
| | | | | | | C | | | | | | M | | | | | | H | | | | | | V | | | |
| | | | | | | | D | | | | | | L | | | | | | G | | | | | | Y | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | B | | | | | | F | | | | | | R | | | | | | W | | | | | | N | |
| | | | A | | | | | | E | | | | | | Z | | | | | | X | | | | | | O |
| | | | | I | | | | | | P | | | | | | J | | | | | | Q | | | | | |
| | | | | | S | | | | | | T | | | | | | U | | | | | | K | | | | |
| | | | | | | C | | | | | | M | | | | | | H | | | | | | V | | | |
| | | | | | | | D | | | | | | L | | | | | | G | | | | | | Y | | |

**Color Key:**
1st____ 2nd____
3rd____ 4th____

## PRESCRIPTIVE CLASS RECORD
## ALPHABET - LOWER CASE LETTERS

3

| r | o | n | l | m | y | t | v | k | p | z | i | a | j | u | s | h | b | c | g | w | d | f | x | q | e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| r | | | | | | t | | | | | | a | | | | | | c | | | | | | q | |
| | o | | | | | | v | | | | | | j | | | | | | g | | | | | | e |
| | | n | | | | | | k | | | | | | u | | | | | | w | | | | | |
| | | | l | | | | | | p | | | | | | s | | | | | | d | | | | |
| | | | | m | | | | | | z | | | | | | h | | | | | | f | | | |
| | | | | | y | | | | | | i | | | | | | b | | | | | | x | | |
| r | | | | | | t | | | | | | a | | | | | | c | | | | | | q | |
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- CVCSD/ A215(120)6-77

Color Key:
1st___ 2nd___
3rd___ 4th___

## PRESCRIPTIVE CLASS RECORD

65

INITIAL CONSONANTS 4

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CVCSD/A215(121)
6-77

Color Key:
1st___2nd___
3rd___4th___

# PRESCRIPTIVE CLASS RECORD

RHYMING

FINAL CONSONANT SOUNDS

5/8

| NAME | Rhyming | p | z | n | l | t | f | g | b | k | m | d | r | s |
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CVCSD/A215(122)6-77

Color Key:
1st___ 2nd___
3rd___ 4th___

PRESCRIPTIVE CLASS RECORD 69

INITIAL 2-LETTER CONSONANT CLUSTERS (BLENDS) 9

| NAME | fr | pl | tr | bl | sp | gr | sw | cl | sl | dr | cr<br>kr | gl | sm | sc<br>sk | br | st | fl | sn | pr | tw |
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CVCSD/A215(123)6-77

Color Key:
1st___ 2nd___
3rd___ 4th___

## PRESCRIPTIVE CLASS RECORD

## LONG AND SHORT VOWELS 11

| NAME | LONG VOWELS | | | | | | | SHORT VOWELS | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a | e | i | o | u | | | a | e | i | o | u | | |
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CVCSD/A215(124)6-77

Color Key:
1st___ 2nd___
3rd 4th___

PRESCRIPTIVE CLASS RECORD
CONSONANT DIGRAPHS 12

| NAME | INITIAL DIGRAPHS | | | | | | | | FINAL DIGRAPHS | | | | | | | |
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| | sh | ch | th | wh | ph | | | | sh | ch | th | ph | ng | | | |
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CVCSD/A215(125)6-77

Color Key:
1st___ 2nd___
3rd___ 4th___

# PRESCRIPTIVE CLASS RECORD

# FINAL 2-LETTER CONSONANT CLUSTERS (BLENDS)

75
28

| NAME | ck | st | ld | mp | nk | rd | nd | nt | sk<br>sc | sp | lt | lk | ft | lp | pt | rn |
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| | ck | st | ld | mp | nk | rd | nd | nt | sk | sp | lt | lk | ft | lp | pt | rn |
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| | | | | | | | | | | | | | | | | |
| | ck | st | ld | mp | nk | rd | nd | nt | sk | sp | lt | lk | ft | lp | pt | rn |
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| | ck | st | ld | mp | nk | rd | nd | nt | sk | sp | lt | lk | ft | lp | pt | rn |
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| | ck | st | ld | mp | nk | rd | nd | nt | sk | sp | lt | lk | ft | lp | pt | rn |
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CVCSD/A215(126)6-77

8

Color Key:
1st___ 2nd___
3rd___ 4th___

# PRESCRIPTIVE CLASS RECORD

77

## INITIAL 3-LETTER CONSONANT CLUSTERS (BLENDS)

29

| NAME | thr | str | spl | squ<br>sqw | scr<br>skr | shr | spr | | |
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CVCS /A215(127)
6-77

Color Key:

1st___2nd___
3rd___4th___

## PRESCRIPTIVE CLASS RECORD

OTHER VOWEL SOUNDS 31

| | VOWEL DIGRAPHS | | | | | | | DIPHTHONGS | | R-CONTROLLED | | |
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## DIRECTIONS FOR ADMINISTERING
## READING COMPREHENSION SKILLS TESTS

The Comprehension Tests assess comprehension skills in six areas: supporting detail, sequence, relationship, inference, main idea, and making judgments. Most of the comprehension skills found in the literature will fit into the above mentioned categories. One of the advantages of dividing comprehension into various sub skills is the teacher is better able to plan specific skill teaching. Research shows that when teachers and students have a planned objective, more learning takes place.

The first six tests cover reading levels preprimer through grade two, and have one question for each skill on each test. The other nine tests cover reading levels grade three through grade ten and have two questions for each sub skill. When there are two questions, the student must answer both questions correctly to indicate mastery.

Primary students use the question pages consumably. Upper grade students use the Student Answer Sheets on page 147 for Tests #6, #7, #10, #16, #21 and #27 or the Student Answer Sheets on page 149 for Tests #30, #32, #43, #44, #57, #58, #59, #60 and #61.

The teacher should give the students the following directions:

> *I am going to give you a short story to read. Read it carefully. When you are through reading, I will take the story and give you the questions to answer. Be sure you put your name on the answer sheet.*

The student should work independently except on Tests #6, #7, #10 and #16. On these tests, the teacher should read aloud the questions and possible answers. The child then marks the most appropriate answer. Use the Answer Key for Comprehension Skills Tests, page 151 to find the grade level equivalent of the test administered. The teacher should not give any help with the pronounciation of words on any selection, but may give help with words the child does not know on the question and answer sheet.

To find the appropriate beginning test, use the predetermined grade level score indicated on the San Diego Quick Assessment Word Reading Test, and then go back two test levels. For example, if the SDQA indicated a 2.6 readability, go back to Test #16 (grade equivalent 1). If the SDQA indicates grade 4, go back to Test #30 (grade equivalent $3^1$). If the SDQA indicated 6th grade, go back to Test #43 (grade equivalent 4). The exception is that no one should start higher than Test #57 (grade equivalent 6).

## Reading Comprehension Skills (Cont.)

### Class Record Sheets:

After correcting the student tests, record them on the Class Prescriptive Record, page 153. (First and second grade teachers may prefer using page 155, which only records tests through third grade level.) If a student answers the supporting detail question on Test 10 correctly, the teacher colors in the circle ● over the number 10; if the student misses the question, an empty circle is made on the 10, i.e., ⑩. Record all six areas in the same way. If the student shows mastery in four of the six areas, the next higher level should be given. If the student answers less than three questions correctly, the student should be given the next lower level. If the student misses in three areas, this would indicate instructional level, and the testing would be discontinued. The teacher should use professional judgment in assigning the student to subskill groups.

When the testing is finished, the record should show a pattern of strengths and weaknesses.

Note: During the second, third and fourth testing period, begin the testing at the level where the student missed in three or more areas on the previous testing.

# Comprehension Skills Test Selection 6

I am Jill.
I see a cat.

I see it.
I see a cat.

See Mom.
See the cat.

Can he be my cat?
Can he, Mom?

## Comprehension Skills Test Questions 6

1. Who said, "Can he be my cat?"

A. Mom
SD B. Jill
C. Dad

2. Who saw the cat first?

A. Mom
S B. Dad
C. Jill

3. A cat would be Jill's:

A. sister
R B. doll
C. pet

4. What is the cat?

A. a boy cat
I B. a girl cat
C. you can't tell from the story

5. The story is mostly about:

A. Jill wants a cat
MI B. Jill and Mom
C. Mom and the cat

6. Do you think Jill should keep the cat?

A. yes
MJ B. no
C. I don't know

## Comprehension Skills Test Selection 7

I like to go.

I like to go in the red car.

Tam likes to go.

Tam likes to go in the red car.

Tam is not a cat.

Tam is my dog.

I like to play.

Tam likes to play.

I like to go to the zoo.

Tam does not like to go to the zoo.

# Comprehension Skills Test Questions 7

1. Tam is a:

SD
- A. cat
- B. dog
- C. red car

2. The story told about the zoo:

S
- A. at the beginning
- B. in the middle
- C. at the end

3. A zoo is like a:

R
- A. school for animals
- B. home for animals
- C. store for animals

4. Tam likes to do:

I
- A. everything I do
- B. nothing I do
- C. some things I do

5. The story tells mostly about:

MI
- A. the zoo
- B. Tam and I
- C. the red car

6. Why do you think Tam didn't like the zoo?

MJ
- A. the animals were in cages
- B. Tam was afraid of the big animals
- C. it was too little

## Comprehension Skills Test Selection 10

"I go to school," said the boy.
"You can't go, Little Pig."

"You stay here with Mom."
"You will be happy here."
Will Little Pig go to school?

"Oh! See a Pig!"
"A little pig is here."

"He can play here."
"Little Pig likes school."

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## Comprehension Skills Test Questions 10

1. His name is:

   A. Little Pig
   SD B. Little Cat
   C. Little Dog

2. Who talked first?

   A. Little Pig
   S B. Mom
   C. the boy

3. Little Pig was the boy's:

   A. school
   R B. pet
   C. toy

4. Did Little Pig go to school?

   A. yes
   I B. no

5. The story is mostly about:

   A. school
   MI B. a pig
   C. Mom

6. Do you think a pig should go to school?

   A. yes
   MJ B. no
   C. I don't know

## Comprehension Skills Test Selection 16

"Oh, Kangaroo," said Mr. Black.
"I can't get a home for you.
Oh, my.
What can I do?"

"See the kangaroo?"said Pat. "I like you.
Can we play?" said Pat.
"Yes, little boy," said Mr. Black.
"The kangaroo can play with you.

Be good to the kangaroo. She needs a home."
"Can she go home with me?" said Pat.
"Yes," said Mr. Black.
"She can go home with you.
She will like a little boy."

"Oh, no," said Mom. "We do not need a kangaroo.
She stays with you."
"Yes," said Mr. Black. "She will stay with me.
I need a pet. She will be my pet."

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## Comprehension Skills Test Questions 16

1. Where did the kangaroo stay?

   A. with Mom
   SD B. with Mr. Black
   C. with Pat

2. What happened first in the story?

   A. Mr. Black could not get a home for kangaroo
   S B. the kangaroo played with Pat
   C. the kangaroo stayed with Mr. Black

3. "Stays with you" means:

   A. jumps with you
   R B. plays with you
   C. lives with you

4. Is the kangaroo:

   A. a boy
   I B. a girl
   C. you can't tell from the story

5. What is a good name for the story?

   A. Kangaroo and Mr. Black
   MI B. Kangaroo Finds a Home
   C. A Pet Named Kangaroo

6. Would you like a kangaroo for a pet?

   A. yes
   MJ B. no
   C. I don't know

## Comprehension Skills Test Selection 21

"Oh, Pat," said Jan. "I am sad. I don't know what to do. We are going away. And I don't want to go."

"Why not?" asked Pat. "It's fun to go away. How long will you be gone?"

"No, it's not fun to go away," said Jan. "We're going away for good. My dad needs to go. And Mom and I have to go with him. But I don't want to go."

"That's all right, Jan," said Pat. "Don't be sad. We can come to see you. That will be fun, too."

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## Comprehension Skills Test Questions 21

1. Who was going away?

SD
A. Pat
B. Jan
C. Mark

2. Who talked first?

S
A. Mom
B. Jan
C. Pat

3. Jan was:

R
A. fun
B. sad
C. away

4. Did Pat like Jan?

I
A. yes
B. no

5. What is a good name for the story:

MI
A. Mom, Dad and Jan
B. Dad Finds a New Job
C. A Sad Day for Jan

6. How would you feel if you had to go away?

MJ
A. sad
B. happy
C. I don't know

## Comprehension Skills Test Selection 27

One morning, Big Rooster got up and looked
out the window.
No one on the farm was up.

"I don't like to get up so soon," said Big
Rooster. "But I have to crow and make all
my friends get up."

Big Rooster went out to the yard. He got up
on the hen house. "I have to get up on this
hen house and crow," said Big Rooster.
"I wish I didn't have to do that every morning."

"I'll crow this morning. But then I'm going
to run away. I'll find a place where I can
have more sleep in the morning."

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# Comprehensions Skills Test Questions 27

1. Big Rooster had to crow to:

   A. get up his friends
   SD B. go to the hen house
   C. run away

2. What happened first?

   A. Big Rooster crowed
   S B. Big Rooster got up
   C. Big Rooster looked out of the window

3. When Big Rooster crowed he:

   A. made a loud noise
   R B. helped the rooster get up
   C. made them mad

4. Why was Big Rooster going to run away?

   A. he didn't like to get up soon
   I B. he liked to get up soon
   C. he took a nap

5. What was most important in the story:

   A. the hen house
   MI B. morning
   C. Big Rooster

6. Would you like to live on a farm?

   A. yes
   MJ B. no
   C. sometimes

## Comprehension Skills Test Selection 30

On the island of Oahu, there once lived a boy who could not talk. Yet even though he could not talk, many thoughts would come to him. Most of his thoughts were very beautiful. They hurried through his head like water running over a stream bed.

But his heart was sad because he could not say what he thought. Often he wished he could tell his family of his joy. He wished he could tell them when he was sad. But always he was quiet.

His family could see that he was very unhappy. "It is because he cannot talk," they said. "He cannot tell his thoughts to us." Then one day his grandfather had an idea. "Even if my grandson cannot talk," he said, "he should be able to make music. Through his music we will know his thoughts."

He began to teach his grandson how to play. The boy picked up the coconut whistle and looked at it. Then he put it to his lips and blew. Oh, the music that he made! All of his thoughts came running out, and the whistle told everyone of them!

His family came running to hear. He played and played on the coconut whistle. The family knew everything that he was thinking. His grandmother smiled a wise, wise smile as the boy played to them of his joys and his sadness.

But soon he played only of his joys, for suddenly he had no sadness left.

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## Comprehension Skills Test Questions 30

1. The boy lived:

   A. on a stream bed

SD B. on a mountain

   C. on a boat

   D. on an island

2. The boy wished he could tell his family:

   A. of his joy

SD B. when he was sad

   C. both of the above

   D. neither of the above

3. In what order did these things happen in the story, 1, 2, 3, 4.

____ he played only of his joys (a)

S ____ all his thoughts came running out (b)

____ his family came running to hear (c)

____ his heart was sad (d)

4. What happened first after the boy picked up the whistle:

   A. he looked at it

S B. he put it to his lips

   C. he blew it

   D. he smiled

5. Suddenly he had no sadness left because:

   A. he could make the whistle "talk" for him

R B. he always wanted a whistle

   C. now he could talk

   D. he liked to hear the music

Over

## Comprehension Skills Test Questions 30

6. "They hurried through his head like water running over a stream bed," means:

A. fast
R B. slow
C. across
D. bumpy

7. Grandfather probably:

A. waited for a train to bring the whistle
I B. ordered the whistle from a giant store
C. made the whistle from something growing near where he lived

8. How old was the boy?

A. 10 years old
I B. 5 years old
C. a teenager
D. the story does not say

9. What would be a good title for this story:

A. A Boy and his Grandfather
MI B. The Boy with a Whistle
C. The Island
D. A Boy Learns to Talk

10. The story is mainly about:

A. the boy
MI B. the whistle
C. Grandfather
D. Oahu

## Comprehension Skills Test Questions 30 Page 3

11. How do you think you would feel if you couldn't talk?

A. afraid
MJ B. happy
C. sad

12. Could you make a whistle talk?

A. yes
MJ B. no
C. I don't know

## Comprehension Skills Test Selection 32

When the next summer came around, she began to swim a little way into the harbor. The harbor has a very fine beach. A great many swimmers come there, especially children.

Little by little, Opo came closer to the swimmers. Finally she swam among them and let them pet her. She was friendliest with the children.

There was one girl who was her special friend. This girl even got rides on Opo's back. Opo seemed to know which children would be gentle with her.

"Weren't you afraid that she might hurt someone?" I asked.

The old man scratched his ear. "You know, that was surprising."

"Did anyone teach Opo tricks?" I asked. "No," he smiled. "No one ever taught her any tricks. Opo made up her own tricks. No one had to teach her."

"She had a lot of tricks. Someone gave her a beach ball. She would throw it high into the air and then swim very fast to be under it when it came down."

"She found bottles on the sand and balanced them on the end of her nose. Nobody taught her to do these things. She just played tricks for the fun of it."

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Over

"She seemed to like to make people laugh. When people laughed or clapped, she jumped high into the air. That was beautiful to watch. She was six feet long and shiny gray. When she jumped, she scattered shining drops of water in the sunlight."

"How long did Opo's visit to Opononi Harbor last?" I asked.

"Opo stayed with us for the rest of the summer," said the man. "It was different from any other summer I can remember. Even without words, she taught us to love a creature that was different from us. We still miss her."

## Comprehension Skills Test Questions 32 Page 1

1. How long did Opo's visit to Opononi Harbor last?

A. for her life
SD B. for 1 year
C. for the rest of the summer
D. the story did not say

2. One of the following was not mentioned in the story.

A. she seemed to like to make people laugh
SD B. Opo loved to dive
C. many children were there
D. she played with bottles and balls

3. In what order 1, 2, 3, 4 did the author tell about the following things?

____ she played tricks (a)
S ____ she seemed to like to make people laugh (b)
____ she taught them a lesson (c)
____ this girl got rides on Opo's back (d)

4. What happened after she found bottles on the sand?

A. she threw them high in the air
S B. she swam very fast
C. the old man scratched her ear
D. she balanced them on the end of her nose

Over

## Comprehension Skills Test Questions 32 Page 2

5. In this story "scratched his ear" makes you think the old man was:

A. trying to think hard
R B. very hot and tired
C. happy
D. a good friend

6. In this story "little by little" means:

A. smaller
R B. children and babies
C. both of the above
D. none of the above

7. Opo was:

A. afraid
I B. welcome
C. thin
D. light

8. Why do you think they chose the name Opo?

A. they liked it
I B. Opo told them
C. it was close to the harbor name
D. they knew it

## Comprehension Skills Test Questions 32 Page 3

9. What would be a good title for this story?

A. Opo and Her Friends
MI B. A Summer with Opo
C. The Big Splash

10. The story was mostly about:

A. tricks
MI B. the ocean
C. Opo

11. Could Opo have hurt someone?

A. yes
MJ B. no

12. Would you be afraid of another animal like Opo?

A. yes
MJ B. no
C. don't know
D. sometimes

## Comprehension Skills Test Selection 43

The huge covered wagon they bought stood in front of the house. Slowly, it was filled up - a little furniture, Ma's iron stove and cooking pots, farming tools, two trunks of clothes, bedding, sacks of seed, sides of bacon and fried beef, barrels of flour, and water kegs. When they ran out of room inside the wagon, they tied things to the outside.

Finally the last day came. Ma hung the basket of chickens under the wagon. Pa brought out the team of oxen and began to hitch them up.

Just as he was finishing, the Miller family drove up. "Ready to go?" called Hal Miller. "We're off to Independence! We'll meet the rest of the wagon train there in three days, and then we're off to Oregon!" Both drivers shouted at their oxen, and the wagons began to roll.

At Independence they camped outside the town. All the other wagons had already arrived. Jed wanted to go into town with Eb, the Millers' oldest son. But his mother told him to stay around. "I need some wood chopped and some water brought, Jed," she said. "And then we'll have supper, and everybody's to go to bed right away. The wagon train is going to start out early in the morning, and we'll all need a good night's sleep."

Jed was out of bed the next morning before anyone else. He was so excited he could hardly stand still. "Just think," he said to himself. "There'll be deserts, and mountains - tall ones, and Indians, and mountain men, and country that nobody's ever seen before. Maybe I'll even shoot a buffalo.

Soon everyone else was up. Tents and bedding were folded up and breakfast was eaten. Then the wagons began to move out.

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## Comprehension Skills Test 43 Questions Page 1

1. Which one was not mentioned in the story? Jed said he'd see:

A. deserts
SD B. small towns
C. mountains
D. Indians

2. What pulled the wagon?

A. one horse
SD B. two horses
C. a team of horses
D. a team of oxen

3. One of the following groups has the events listed in the correct order. Mark the right one.

A. They hung things on the outside of the wagon; they met the others at Independence; they went to bed to get ready for the trip; they folded up the tents and the wagons began to move.

S B. They hung things on the outside of the wagon; they folded up the tents and the wagons began to move; they went to bed to get ready for the trip; they met the others at Independence.

C. They met the others at Independence; they hung things on the outside of the wagon; they folded up the tents and the wagons began to move; they hung things on the outside of the wagon.

D. They folded up the tents and the wagons began to move; they hung things on the outside of the wagon; they went to bed to get ready for the trip; they met the others at Independence.

4. In what part of the story did the author tell about folding up the tents?

A. the beginning
S B. the middle
C. the end
D. the beginning and the end

5. "We're off to Independence" means:

A. we're free
R B. we're ready to go
C. we're going to the town of Independence

6. Jed is to Pa as Eb is to:

A. Independence
R B. wagon
C. Hal Miller
D. Ma

Over

7. They took so much food because

A. the grocery stores were so small on the way
I B. Oregon didn't have much food
C. They didn't know what they would find on the way
D. all of the above

8. Why was Jed the first one out of bed in the morning?

A. because he was the leader
I B. because he went to bed so early
C. to get wood for his Mother
D. because he was so excited

9. Who was the most important person in the story?

A. Jed
MI B. Eb
C. Miller
D. Mother

10. A good title for the story would be:

A. The Covered Wagon
MI B. A Wagon Trip to Oregon
C. Jed Miller
D. Off to Independence

11. Would it have been better for Jed's family to stay home? Why?

MJ

12. Should Jed's family have gone by themselves instead of waiting for the others? Why?

MJ

## Comprehension Skills Test Selection 44

All the people on the earth are glad when they hear, "It's time for dinner." And they eat more different kinds of food than you can imagine!

In some lands people fill their bowls with steaming rice and start eating with their chopsticks. In some lands they chew a piece of raw seal meat. They have whale blubber for dessert. In some lands they sit down under a palm tree for a drink of creamy coconut milk - or pick a breadfruit dinner from a breadfruit tree.

All around the earth, people are eating their breakfasts and their dinners and their suppers!

When night comes, the people on the earth begin to yawn and stretch themselves and rub their eyes for sleep. They go to bed in more kinds of beds than you could count!

In some lands people sleep in bearskin bags on the floor. In some lands they sleep on rugs on top of warm stoves. In some lands, they sleep in beds made of feathers.

"Sleep tight." the people on the earth say when night comes to the places where they live.

Everywhere on the earth, people like to live together in families - with a father and a mother and different sized children, and maybe a puppy or a red-and-green parrot for a pet.

Everywhere families are living - eating their dinners and gardening in their gardens and having all kinds of fun together.

From THIS IS THE WORLD by Josephine van Dolzen Pease. Copyright 1944 by Rand McNally & Company.

Over

It is fun to play games with friends, and to call for them on the way to school, and to go with them for a picnic in the park. And friends are just the ones to come to birthday parties and make wishes!

Everytime the different kinds of people living round about the great earth wake up in the morning light, there is something wonderful they can say. They can say, "Good morning! It isn't yesterday. It isn't tomorrow. Today is here!"

Comprehension Skills Test 44 Questions Page 1

1. In the story what are all the people on earth glad to hear?

SD
A. there is breadfruit for dinner
B. it's time for dinner
C. it's time for bed
D. it's time for fun

2. How many kinds of beds do people sleep in?

SD
A. more than you could count
B. a hundred
C. one
D. the story does not say

3. Number the order 1, 2, 3, 4 in which the author tells you about the people:

S
____ (a) families
____ (b) food
____ (c) sleep
____ (d) friends

4. In the story what happens after people say "It isn't tomorrow?"

S
A. it isn't yesterday
B. today is here
C. it isn't now
D. good morning

5. A breadfruit is:

R
A. bread and fruit
B. fruit salad with bread
C. a pod from a tree
D. fruit, bread and milk

6. "Sleep tight" means:

R
A. curl up in bed
B. tuck the covers in tight
C. have a good sleep
D. take a nap

Over

7. The author is trying to show you that all people need to have:

I
A. food
B. shelter
C. sleep
D. all of the above
E. none of the above

8. The author thinks that:

I
A. people are more alike than different
B. people are more different than alike
C. people are all different
D. people are all alike

9. The story is mainly about:

MI A. people B. food C. shelter D. games

10. A good name for this story:

MI
A. It's Time for Dinner
B. Eating Many Kinds of Food
C. People Live in Many Different Ways
D. Families Live in Many Countries

11. Do you feel every morning is a "Good Morning?" Why?

MJ

12. Why do you think some people eat raw seal meat and whale blubber?

MJ

## Comprehension Skills Test Selection 57

There was once a King of Scotland whose name was Robert Bruce. He had to be both brave and wise, for the times in which he lived were wild and rough. The King of England was at war with him and had led a great army into Scotland to drive him out of the land.

Battle after battle had been fought. Six times had Bruce led his brave little army against his foes, and six times had his men been beaten and driven into flight. At last his army was scattered, and he was forced to hide in the woods or in lonely places among the mountains.

One rainy day, Bruce lay on the ground under an old broken down shed, listening to the patter of raindrops on the roof above him. He was tired and sick at heart and ready to give up all hope. It seemed to him that there was no use for him to try to do anything more.

As he lay thinking, he saw a spider over his head, getting ready to weave her web. He watched her as she worked slowly and with great care. Six times she tried to throw her tiny thread from one roof beam to another, and six times it fell short of the mark.

"Poor thing!" said Bruce. "You, too, know what it is to fail."

But the spider did not lose hope. With still more care, she made ready to try for the seventh time. Bruce almost forgot his own troubles as he watched her swing herself out upon the slender line. Would she fail again?

No! The thread was carried safely to the beam and fastened there.

From FIFTY FAMOUS STORIES RETOLD by James Baldwin. Copyright © 1896 and 1928 by American Book Company. Adapted by permission of American Book Company.

Over

"I, too, will try a seventh time!" cried Bruce. He rose and called his men together. He told them of his plans, and set them out with messages of cheer to his disheartened people. Soon after there was an army of brave Scots around him. Another battle was fought, and the King of England, badly beaten, was glad to go back into his own country. It has been said that, after that day, no one by the name of Bruce would ever hurt a spider. The lesson which the little creature had taught the King was never forgotten.

**Comprehension Skills Test** **57** Questions Page 1

1. Who was Robert Bruce?

   A. King of England
   SD B. the spider
   C. King of Scotland
   D. a soldier

2. The color of the spider was:

   A. black
   SD B. grey
   C. yellow
   D. the story does not say

3. In which part of the story was the King of England beaten?

   A. beginning
   S B. middle
   C. ending
   D. beginning and ending

4. One of the following groups has the events listed in the correct order. Mark the right one.

   A. Battle after battle was fought; his army was scattered; he saw a spider over his head; the King of England was glad to go back to his country.

   S B. His army was scattered; battle after battle was fought; he saw a spider over his head; the King was glad to go back to his country.

   C. Battle after battle was fought; he saw a spider over his head; the King of England was glad to go back to his country; his army was scattered.

   D. The King of England was glad to go back to his country; he saw a spider over his head; battle after battle was fought; his army was scattered.

5. "Driven into flight" means:

   A. driving in an airplane
   R B. a way to fly
   C. running away
   D. diving and fighting

6. "Sick at heart" means:

   A. feeling sad
   R B. having the flu
   C. having a heart attack
   D. none of the above

Over

Comprehension Skills Test 57 Questions Page 2

7. You know it was important to Bruce to win the battle because:

A. of his desire to win the war for Scotland
I B. he was a hero
C. he was a King
D. he liked the spider

8. For a time, Bruce probably thought that winning the battle:

A. was like a vacation
I B. would not happen
C. would help the King's wife
D. was important

9. The most important character was:

A. the spider
MI B. the King of England
C. the King of Scotland
D. the brave Scots

10. What would be the best title for this story?

A. The Spider Web
MI B. The Army
C. One Rainy Day
D. King Bruce and the Spider

11. Is war sometimes necessary? Why?

MJ

12. What kind of man was Bruce? Why do you think so?

MJ

## Comprehension Skills Test Selection 58

Scientists have speculated for years about which is the brainiest creature in the whole animal kingdom. They now have evidence which seems to show that, at least on the basis of tests, the chimpanzee heads the class.

Like some people, chimps are great practical jokers. At one laboratory the lights suddenly went out one night. The attendants were mystified. Who could have turned off the lights? The only switch was on a wall several feet from the cage of Jojo, a chimp. Jojo was off in a corner with her back turned. They noticed, however, that her shoulders appeared to be shaking. They noticed that she held a stick in one hand - and had her other hand clamped over her mouth. She was trying to muffle a laugh.

Chimpanzees can laugh in human fashion and can even cry, but they cannot shed tears. They are also great ones for kissing and can become sympathetic. One scientist found he could get a chimp down out of a tree by pretending that he had hurt his arm. The chimp climbed down out of the tree, looked the arm over sympathetically, and caressed it soothingly.

The little chimpanzee at the St. Louis Zoo was losing one of his baby teeth. The tooth was loose and wobbled when the boy-chimp touched it with a finger, but it did not come out. Apparently it was causing him great pain. His comrades showed great concern and sympathy for his problem. Several reached their fingers into his mouth and tried to pull the tooth loose, but they couldn't get a good hold. Finally an attendant, who happened to notice the commotion, tossed a pair of pliers into the cage. After a few experiments the chimps succeeded in pulling the tooth. Then the whole crowd examined the tooth, hollered at it, bit it. One chimp threw it scornfully on the floor, and the crowd took turns jumping up and down on the nasty old tooth.

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**Comprehension Skills Test** **58** **Questions Page 1**

1. According to the author, scientists have decided chimpanzees are the brainiest animals on the basis of:

SD A. sympathy B. tests C. thinking D. watching

2. According to the story, chimpanzees can:

A. laugh
SD B. cry tears
C. kiss
D. all of the above
E. only some of the above

3. One of the following groups has the events listed in the correct order. Mark the right one.

A. An attendant put in a pair of pliers; the little chimp had a loose tooth; the whole crowd of chimps hollered at the tooth; an attendant heard the commotion.

S B. The whole crowd of chimps hollered at the tooth; an attendant put in a pair of pliers; an attendant heard the commotion; the little chimp had a loose tooth.

C. An attendant heard the commotion; the whole crowd of chimps hollered at the tooth; the little chimp had a loose tooth; an attendant put in a pair of pliers.

D. The little chimp had a loose tooth; an attendant heard the commotion; an attendant put in a pair of pliers; the whole crowd of chimps hollered at the tooth.

4. In what part of the story did the author tell about the lights going out?

S A. the beginning B. the middle C. the end D. beginning and end

5. According to the story, chimpanzees and humans are alike in the following way:

A. shed tears
R B. laugh
C. live in trees
D. the smartest creatures in the whole animal kingdom

6. In this story "muffle" means:

R A. joke B. show up C. cover up D. shake

Over

7. Chimpanzees are very:

I
A. healthy
B. strong
C. loud
D. the story does not say

8. How did Jojo turn out the laboratory lights?

I
A. she used a tool
B. she didn't really do it
C. she jumped out of her cage
D. you can't tell from reading the story

9. From this story, you could infer that:

MI
A. all chimpanzees are the smartest animals
B. some chimpanzees are the smartest animals
C. no chimpanzees are the smartest animals
D. the story does not tell

10. The main character in this story is:

MI
A. Jojo
B. the scientist
C. there isn't one
D. St. Louis Zoo attendant

11. Why do you think a scientist would study chimpanzees?

MJ
________________________________________
________________________________________
________________________________________
________________________________________

12. Why do you think chimpanzees can't shed tears?

MJ
________________________________________
________________________________________
________________________________________
________________________________________

## Comprehension Skills Test Selection 59

At feeding time - in which Shamu does away with 110 pounds of fish daily and George does away with 17 pounds - George and Shamu carry on as though they are going to do away with each other. A trainer keeps Shamu at bay with a long pole while George eats. When George has his fill, he gets frisky. He lets a mackerel dangle tantalizingly from his mouth while he executes sort of a dolphin hula around the tank, just out of Shamu's reach. When George first lost the sight in his left eye, Shamu wasn't above a few left-side sneaks. But now they're both adjusted to the fact that George can handle himself with only one eye. The old self-confident George is back. During Shamu's act, in which the whale is the "patient" and her trainer is the "doctor," Shamu is required to roll over, tummy-side-up, for a "stethoscope" sounding of her "heart-beats." George finds this delightful. He rarely misses a chance to "buzz" the defenseless Shamu, slapping his back against hers, and running.

Through it all, George has remained unscathed except for a few marks from Shamu's formidable set of forty-four very large teeth. But then, George has sunk his teeth into Shamu's dorsal fin more than once.

What happens when one of them wants to sleep? Well, sleep is several fifteen-to-sixty-second catnaps during which there is an unspoken agreement that "the need for sleep is greater than my need for eating you, or your need for eating me."

Shamu has shattered all records for longevity among captive killer whales. Could George be one of the reasons? "He could," says Shamu's trainer. "All animals do better in readjustment to captivity if they have companionship," he explains, "when there is something alive and moving with them."

That's George, all-right - alive and moving!

By Beverly Beyette, as published in the San Diego Union.

1. Shamu's trainer states that "all animals in captivity do better if they have":

A. food
SD B. a chance
C. companionship
D. all of the above

2. During the show, who is the patient?

A. George
SD B. the trainer
C. Jim
D. none of these

3. One of the following groups has the events listed in the order in which the author tells about them. Mark the right one.

A. the sleeping habits of Shamu and George; the show; feeding the animals; Shamu's teeth.

S B. the show; Shamu's teeth; the sleeping habits of Shamu and George; feeding the animals.

C. feeding the animals; the show; Shamu's teeth; the sleeping habits of Shamu and George.

D. Shamu's teeth; feeding the animals; the sleeping habits of Shamu and George; the show.

4. What part of the story did the author talk about how much food Shamu and George ate:

A. beginning
S B. middle
C. end
D. beginning and end

5. In the story "remained unscathed" means:

A. not harmed
R B. was friendly
C. not delighted
D. had longevity

6. In the story, "dangle" means:

R A. throw B. execute C. sneak D. swing

Over

Comprehension Skills Test 59 Questions Page 2

7. Why did George lose his self-confidence?

A. he is afraid of Shamu's speed
I B. he is smaller than Shamu
C. he didn't know what to expect after his accident
D. he didn't like the trainer

8. When it comes to sleeping, Shamu and George declared:

A. hatred
I B. no need for it
C. a truce
D. to sleep 15 minutes each

9. The best title for this story would be:

A. Companionship
MI B. Shamu
C. George
D. The Animal Show

10. The main idea would be:

A. understanding about the health of the animals
MI B. that George is alive and moving
C. none of the above
D. both of the above

11. Why is it important to have self-confidence?

______________________________
MJ ______________________________
______________________________
______________________________

12. What is the relationship between Shamu and George?

______________________________
MJ ______________________________
______________________________
______________________________

## Comprehension Skills Test Selection 60

A farm horse named Charles was led to town one day by his owner, to be shod. He would have been shod and brought back home without incident if it hadn't been for Eva a duck, who was always hanging about the kitchen door of the farmhouse, eavesdropping, and never got anything quite right. Her farm-mates said of her that she had two mouths but only one ear.

On the day that Charles was led away to the smith, Eva went quacking about the farm, excitedly telling the other animals that Charles had been taken to town to be shot.

"They're executing an innocent horse!" cried Eva. "He's a martyr. He died to make us free!"

"He was the greatest horse in the world," sobbed a sentimental hen.

"He just seemed like old Charley to me," said a realistic cow. "Let's not get into a moony mood."

"He was wonderful!" cried a gullible goose.

"What did he ever do?" asked a goat.

Eva, who was as inventive as she was inaccurate, turned on her lively imagination. "It was butchers who led him off to be shot!" she shrieked. "They would have cut our throats while we slept if it hadn't been for Charles!"

"I didn't see any butchers, and I can see a burnt-out-firefly on a moonless night," said a barn owl. "I didn't hear any butchers and I can hear a mouse walk across moss."

Copyright © 1956 James Thurber. From FURTHER FABLES FOR OUR TIME, published by Simon & Schuster, New York.

Over

"We must build a memorial to Charles the Great who saved our lives," quacked Eva, and all the birds and the beasts in the barnyard, except the wise owl, the skeptical goat, and the realistic cow set about building a memorial.

Just then the farmer appeared in the lane, leading Charles, whose new shoes glinted in the sunlight. It was lucky that Charles was not alone, for the memorial builders might have set upon him with sticks and clubs and stones for replacing their hero with just plain old Charley.

It was lucky too that they could not reach the barn owl, who quickly perched upon the weathervane of the barn, for none is so exasperating as he who is right. The sentimental hen and the gullible goose were the ones who finally called attention to the true culprit - Eva, the one-eared duck with two mouths. The others set upon her and tarred and unfeathered her, for none is more unpopular than the bearer of sad tidings that turn out to be false.

*Moral! Get it right or let it alone. The conclusion you jump to may be your own!*

Comprehension Skills Test 60 Questions Page 1

1. Who was gullible?

SD A. Eva B. the goose C. the goat D. the horse

2. Why was Charles taken to the "smith?"

A. to get new shoes
SD B. to be butchered
C. to be shot
D. to go to the farmer

3. One of the following groups has the events listed in the correct order. Mark the right one.

A. They decided to build a memorial to Charles; Eva was tarred and defeathered; Eva said Charles was going to be shot; Charles went to town.

S B. Eva said Charles was going to be shot; Charles went to town; Eva was tarred and defeathered; they decided to build a memorial to Charles.

C. Charles went to town; they decided to build a memorial to Charles; Eva said Charles was going to be shot; Eva was tarred and defeathered.

D. Charles went to town; Eva said Charles was going to be shot; they decided to build a memorial to Charles; Eva was tarred and defeathered.

4. What happened next after Eva said "let's build a memorial?"

A. she got tarred and defeathered
S B. Charles came down the lane
C. Eva went quacking down the lane
D. Eva cried "He's a hero."

5. When her farm-mates said the duck had "two mouths and one ear," they meant:

A. she talked too much
R B. she didn't listen
C. both of the above
D. neither of the above

6. "To be shod" means:

A. to get killed
R B. to get butchered
C. to go to town
D. to get new shoes

Over

Comprehension Skills Test 60 Questions Page 2

7. A barn owl:

A. can see well and hear well
I B. can not see well or hear well
C. can see well but not hear well
D. can not see well but can hear well

8. The problem with eavesdropping is that you might:

A. hear things exactly as they happened
I B. hear things partially as they happened
C. hear things that are always sad
D. hear things that are always funny

9. A good name for this story is:

A. Eva Plans a Memorial
MI B. Charley's New Shoes
C. The Greatest Horse in the World
D. Charles the Great

10. The story is mostly about:

A. being careful what stories one tells
MI B. Charley
C. the farm animals
D. Eva quacking

11. What does the moral mean "Get it right or let it alone. The conclusion you jump to may be your own?"

______________________________
MJ ______________________________
______________________________
______________________________

12. List three things you should think about when someone tells you some gossip?

______________________________
MJ ______________________________
______________________________
______________________________

Around us on every side, were the great Himalayas, stretching away through Nepal and Tibet. For the closer peaks - giants like Lhatse, Nuptse, and Makalu - you now had to look sharply downward to see their summits. And farther away, the whole sweep of the greatest range on earth - even Kanchenjunga itself- seemed only like little bumps under the spreading sky. It was such a sight as I had never seen before and would never see again: wild, wonderful, and terrible. But terror was not what I felt. I loved the mountains too well for that. I loved Everest too well. At that great moment for which I had waited all my life, my mountain did not seem to me a lifeless thing of rock and ice, but warm and friendly and living. She was a mother hen, and the other mountains were chicks under her wings. I too, I felt, had only to spread my own wings to cover and shelter the brood that I loved.

We had now been on top almost fifteen minutes. Before starting down, we looked around once more. Had Mallory and Irvine reached the top before they died? Could there be any sign of them? We looked, but we could see nothing. Still they were in my thoughts, and I am sure in Hillary's too. All those who had gone before us were in my thoughts - Sahibs and Sherpas, English and Swiss - all the great climbers, the brave men, who for thirty-three years had dreamed and challenged, fought and failed on this mountain, and whose efforts and knowledge and experience had made our victory possible. Our companions below were in my thoughts, for without them, without their help and sacrifice - we would never have been where we were that day. And closest of all was one figure, one companion: Lambert. He was so near, so real to me, that he did not seem to be in my thoughts at all but actually standing there beside me. Any moment now I would turn and see his big bear face grinning at me. I would hear his voice saying, "*Ca va bien*, Tenzing. *Ca va Bien*!"

We turned on our oxygen sets. We started off. And though we were anxious to get down as quickly as possible, we went slowly and carefully, because we knew that we were more tired than before, that our reactions were less sure, and that most accidents on mountains happen when men are tired and careless on the way down.

From MAN OF EVEREST by Tenzing Norgay and James Ramsey Ullman. Reprinted by permission of George G. Harrap & Co. Ltd.

Comprehension Skills Test 61 Questions Page 1

1. What was the name of the mountain?

SD A. Napal B. Everest C. Himalayas D. Kangchenjunga

2. Who else climbed the mountain with the Author?

SD A. Tenzing B. Hillary C. Mallory D. Irvine

3. One of the following groups has the events listed in the correct order. Mark the right one.

   A. the author thought about the others who had tried; the author looked down on the summit of the tall peaks; they started slowly and carefully; they had been on the mountain 15 minutes.

S

   B. the author looked down on the summit of the tall peaks; the author thought about the others who had tried; they had been on the mountain 15 minutes; they started slowly and carefully.

   C. they started slowly and carefully; they had been on the mountain 15 minutes; the author thought about the others who had tried; the author looked down on the summit of the tall peaks.

   D. they had been on the mountain 15 minutes; the author thought about the others who had tried; the author looked down on the summit of the tall peaks; they started slowly and carefully.

4. What happened after they turned on their oxygen?

   A. they got to the top
S  B. he thought about Lambert
   C. they started down the mountain
   D. they looked down toward the summit

5. In the story, "shelter the brood that I loved" means:

   A. sheltering your family
R  B. sheltering the trees
   C. sheltering the mountains
   D. keeping people from climbing the mountains

6. In this story, "reactions were less sure" means:

   A. not sure of your opinions
R  B. not sure of physical reactions
   C. physical coordination is poor
   D. your feet might slip

Over

7. What was the name of the person telling the story?

I A. Hillary B. Mallory C. Irvine D. Tenzing

8. To the author, the mountain was:

I
A. lifeless
B. rock and ice
C. both of the above
D. neither of the above

9. The most important character in the story is:

MI
A. the climbers
B. Hillary
C. the author
D. Mallory

10. The story is mostly about:

MI
A. Everest
B. one man's big climb
C. how to be a mountain climber
D. the challenge of the mountain

11. Do you think mountain climbing would be worth the risk? Why?

MJ ______________________________

12. Why do you think this climber sounds so important?

MJ ______________________________

**Comprehension Skills** **ANSWER SHEET**

TEST # 6 7 10 16 21 27 (Circle One)

NAME:

SD 1.

S 2.

R 3.

I 4.

MI 5.

MJ 6.

---

**Comprehension Skills** **ANSWER SHEET**

TEST # 6 7 10 16 21 27 (Circle One)

NAME:

SD 1.

S 2.

R 3.

I 4.

MI 5.

MJ 6.

---

TEST # 6 7 10 16 21 27 (Circle One)

SD 1.

S 2.

R 3.

I 4.

MI 5.

MJ 6.

---

TEST # 6 7 10 16 21 27 (Circle One)

SD 1.

S 2.

R 3.

I 4.

MI 5.

MJ 6.

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**Comprehension Skills** **ANSWER SHEET**

**TEST #** 30 32 43 44 57 58 59 60 61 (Circle One)

NAME:

SD 1.

SD 2.

S 3. 1st / 2nd / 3rd / 4th

S 4.

R 5.

R 6.

I 7.

I 8.

MI 9.

MI 10.

MJ 11.

MJ 12.

**Comprehension Skills** **ANSWER SHEET**

**TEST #** 30 32 43 44 57 58 59 60 61 (Circle One)

NAME:

SD 1.

SD 2.

S 3. 1st / 2nd / 3rd / 4th

S 4.

R 5.

R 6.

I 7.

I 8.

MI 9.

MI 10.

MJ 11.

MJ 12.

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## ANSWER KEY FOR COMPREHENSION SKILLS TESTS

SD-Supporting Detail S-Sequence R-Relationship

I-Inference MI-Main Idea MJ-Making Judgment

| Reading Level | | $PP^1$ | $PP^2$ | P | 1 | $2^1$ | $2^2$ | |
|---|---|---|---|---|---|---|---|---|
| Test Number | | #6 | #7 | #10 | #16 | #21 | #27 | |
| SD | 1 | B | B | A | B | B | A | SD |
| S | 2 | C | C | C | A | B | B | S |
| R | 3 | C | B | B | C | B | A | R |
| I | 4 | A | C | A | B | A | A | I |
| MI | 5 | A | B | B | B | C | C | MI |
| MJ | 6 | ** | A or B | ** | ** | ** | ** | MJ |

| Reading Level | | $3^1$ | $3^2$ | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Test Number | | #30 | #32 | #43 | #44 | #57 | #58 | #59 | #60 | #61 | |
| 1 | SD | D | C | B | B | C | B | C | B | B | SD |
| 2 | SD | C | B | D | A | D | E | D | A | B | SD |
| 3 | S | 4 2 3 1 | 2 3 4 1 | A | 3 1 2 4 | C | D | C | D | B | S |
| 4 | S | A | D | C | B | A | B | A | B | C | S |
| 5 | R | A | A | C | C | C | B | A | C | C | R |
| 6 | R | A | D | C | C | A | C | D | D | B | R |
| 7 | I | C | B | C | D | A | D | C | A | D | I |
| 8 | I | D | C | D | A | B | A | C | B | D | I |
| 9 | MI | B | B | A | A | C | B | A | A | C | MI |
| 10 | MI | A | C | B | C | D | C | C | A | D | MI |
| 11 | MJ | ** | ** | ** | ** | ** | ** | ** | ** | ** | MJ |
| 12 | MJ | ** | ** | ** | ** | ** | ** | ** | ** | ** | MJ |

**ACCEPT ANY ANSWER THE CHILD CAN DEFEND

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Color Key:
1st____ 2nd____
3rd____ 4th____

## PRESCRIPTIVE CLASS RECORD

## COMPREHENSION SKILLS

Not Mastered ○ Mastered ●
Mastery = Missed no answers

| NAME | 1. Supporting Details | 2. Sequence | 3. Relationships | 4. Inference | 5. Main Idea | 6. Making Judgments |
|---|---|---|---|---|---|---|
| | 6 7 10 16<br>21 27 30 32<br>43 44 57 58<br>59 60 61 | 6 7 10 16<br>21 27 30 32<br>43 44 57 58<br>59 60 61 | 6 7 10 16<br>21 27 30 32<br>43 44 57 58<br>59 60 61 | 6 7 10 16<br>21 27 30 32<br>43 44 57 58<br>59 60 61 | 6 7 10 16<br>21 27 30 32<br>43 44 57 58<br>59 60 61 | 6 7 10 16<br>21 27 30 32<br>43 44 57 58<br>59 60 61 |
| | 6 7 10 16<br>21 27 30 32<br>43 44 57 58<br>59 60 61 | 6 7 10 16<br>21 27 30 32<br>43 44 57 58<br>59 60 61 | 6 7 10 16<br>21 27 30 32<br>43 44 57 58<br>59 60 61 | 6 7 10 16<br>21 27 30 32<br>43 44 57 58<br>59 60 61 | 5 7 10 16<br>21 27 30 32<br>43 44 57 58<br>59 60 61 | 6 7 10 16<br>21 27 30 32<br>43 44 57 58<br>59 60 61 |
| | 6 7 10 16<br>21 27 30 32<br>43 44 57 58<br>59 60 61 | 6 7 10 16<br>21 27 30 32<br>43 44 57 58<br>59 60 61 | 6 7 10 16<br>21 27 30 32<br>43 44 57 58<br>59 60 61 | 6 7 10 16<br>21 27 30 32<br>43 44 57 58<br>59 60 61 | 6 7 10 16<br>21 27 30 32<br>43 44 57 58<br>59 60 61 | 6 7 10 16<br>21 27 30 32<br>43 44 57 58<br>59 60 61 |
| | 6 7 10 16<br>21 27 30 32<br>43 44 57 58<br>59 60 61 | 6 7 10 16<br>21 27 30 32<br>43 44 57 58<br>59 60 61 | 6 7 10 16<br>21 27 30 32<br>43 44 57 58<br>59 60 61 | 6 7 10 16<br>21 27 30 32<br>43 44 57 58<br>59 60 61 | 6 7 10 16<br>21 27 30 32<br>43 44 57 58<br>59 60 61 | 6 7 10 16<br>21 27 30 32<br>43 44 57 58<br>59 60 61 |
| | 6 7 10 16<br>21 27 30 32<br>43 44 57 58<br>59 60 61 | 6 7 10 16<br>21 27 30 32<br>43 44 57 58<br>59 60 61 | 6 7 10 16<br>21 27 30 32<br>43 44 57 58<br>59 60 61 | 6 7 10 16<br>21 27 30 32<br>43 44 57 58<br>59 60 61 | 6 7 10 16<br>21 27 30 32<br>43 44 57 58<br>59 60 61 | 6 7 10 16<br>21 27 30 32<br>43 44 57 58<br>59 60 61 |
| | 6 7 10 16<br>21 27 30 32<br>43 44 57 58<br>59 60 61 | 6 7 10 16<br>21 27 30 32<br>43 44 57 58<br>59 60 61 | 6 7 10 16<br>21 27 30 32<br>43 44 57 58<br>59 60 61 | 6 7 10 16<br>21 27 30 32<br>43 44 57 58<br>59 60 61 | 6 7 10 16<br>21 27 30 32<br>43 44 57 58<br>59 60 61 | 6 7 10 16<br>21 27 30 32<br>43 44 57 58<br>59 60 61 |
| 112 | 6 7 10 16<br>21 27 30 32<br>43 44 57 58<br>59 60 61 | 6 7 10 16<br>21 27 30 32<br>43 44 57 58<br>50 60 61 | 6 7 10 16<br>21 27 30 32<br>43 44 57 58<br>59 60 61 | 6 7 10 16<br>21 27 30 32<br>43 44 57 58<br>59 60 61 | 6 7 10 16<br>21 27 30 32<br>43 44 57 58<br>59 60 61 | 6 7 10 16<br>21 27 30 32<br>43 44 57 58<br>59 60 61 |
| | | | | | | |

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Color Key:
1st____2nd____
3rd____4th____

# PRESCRIPTIVE CLASS RECORD
# COMPREHENSION SKILLS
# PRIMARY

Not Mastered ○ Mastered ●
Mastery = Missed no answers

| NAME | 1. Supporting Details | 2. Sequence | 3. Relationships | 4. Inference | 5. Main Idea | 6. Making Judgments |
|---|---|---|---|---|---|---|
| | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 |
| | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 |
| | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 |
| | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 |
| | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 |
| | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 |
| | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 |
| | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 |
| | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 |
| | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 |
| | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 |
| | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 |
| | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 | 6 7 10 16<br>21 27 30 32 |

## DIRECTIONS FOR ADMINISTERING THE
## STRUCTURAL ANALYSIS AND STUDY LOCATIONAL SKILLS TESTS

This battery of tests has been developed as a quick group survey of structural analysis and study locational skills. Primary children use the tests consumably regardless of test level. Upper grade children transfer the answers to an answer sheet except in those few cases where the teacher feels the student will do better using the test booklet consumably.

Level I Tests use the skills and vocabulary introduced in many first and second grade basic tests. Level II uses vocabulary and skills from grades three and four. and Level III is based on fifth and sixth grade vocabulary and skills. The grade level designations are to be used only as a guide for help in communicating skill development. Students must not be locked into grade level expectancies.

Teachers of Primary students should begin by giving Level I test. (The student should be reading comfortably in first grade material before taking the test.) After correcting and recording the results, give Level II test to any child who has mastered seven or eight of the twelve skills on Level I. Teachers should read both the instructions and the examples with the students for each test. However, do not read any of the specific test items. Give additional examples, if necessary.

Teachers of Upper Grade students should begin with Level II for any child reading at third grade or above. After correcting and recording the results, give Level I to any student who has mastered less than six of the ten parts. Give Level III to any student who has mastered more than six of the ten parts of Level II. Upper grade students should be able to take the tests silently after the teacher gives initial instructions. If an upper grade child is reading between the first and third grade level, the Level I test should be taken. The teacher may want to read the directions and examples. No child should begin with Level III.

The following materials are included in this section.

1. Level I test, a student answer sheet for Level I (for upper grade students only), a teacher answer key and a Level I Prescriptive Class Record.
2. Level II test, a student answer sheet for Level II, a teacher answer key and a Level II Prescriptive Class Record.
3. Level III test, a student answer sheet for Level III, a teacher answer key and a Level III Prescriptive Class Record.

On each test or student answer sheet, in small type, is a mastery designation, i.e., 2 = 1m, 4 = 2m. This means the student must have at least two answers correct for mastery at 1st grade level, or the student must have at least four correct for mastery at 2nd grade level. On the Prescriptive Class Record, color in the top triangle if the student has two or three correct (first grade mastery), or color in the whole box if the student has all four correct. Students are not tested again during the same year on skills they have mastered at both grade levels.

Successive Testing Periods:

Teachers of Primary students will find it helpful to give the child single sheets. It takes only a few minutes to put the student's name on the paper(s) and then either circle the tests needed or cross out the ones already passed.

Teachers of Upper Grade students will find it helpful to cross out the tests students have passed or circle the ones they need to take on the student answer sheet. There is a separate Prescriptive Class Record for each level in this component. Students must not be locked into grade levels. The grade levels are merely a landmark in a continuum of skills.

# STRUCTURAL ANALYSIS AND STUDY LOCATIONAL SKILLS

Level I Name ______________

## 13 Alphabetizing

Fill in the blanks in alphabetical order (A, B, C order)

Sample: h i j k

1. b ____ d ____ ____ g

2. m ____ ____ p ____ r

3. Number in alphabetical order 1, 2, 3, 4, 5, 6.

____ just ____ ball ____ red

____ wagon ____ can ____ man

4. Number in alphabetical order 1, 2, 3, 4.

____ beef ____ buy

____ boy ____ bring

2 = 1m
4 = 2m

## 14 Compound Words

Put a circle around the compound words

Sample: brown
[✓ into]
winter

1. looked
football
jumps
cowboy
wanted
bedroom
popcorn
ride

2. funny
window
doghouse
grandfather
picture
singing
little
airplane

1 = 1m
2 = 2m

## 15 Context Clues (Cloze Procedure)

Put an X on the letter next to the word that is missing in each sentence of the story.

Sample:
Ned and Bob had ______ dogs.
(A) saw (B) Bill [✓ (C) two]

1. The cat saw all ________ dogs.
(A) saw (B) she (C) the (D) barked

2. All the dogs ________ the cat.
(A) saw (B) she (C) the (D) barked

3. The dogs ________.
(A) saw (B) she (C) the (D) barked

The cat jumped.

4. Then ________ ran up a tree.
(A) saw (B) she (C) the (D) barked

2 = 1m
4 = 2m

**17** **Synonyms:** Put a circle around A, B, or C to show which word is a synonym (means the same as the underlined word.)

Sample: save
A. some
B. give
[✓ C] keep

1. house
A. home
B. mouse
C. hot

2. glad
A. sad
B. glove
C. happy

3. shut
A. clock
B. close
C. open

4. small
A. smell
B. little
C. big

2 = 1m
4 = 2m

---

**18** **Antonyms:** Put a circle around A, B, or C to show which word is an antonym (means the opposite of the underlined word.)

Sample: hot
A. cool
[✓ B] cold
C. warm

1. on
A. cut
B. off
C. in

2. first
A. next
B. last
C. before

3. sad
A. happy
B. sorry
C. soft

4. told
A. tells
B. sold
C. asked

2 = 1m
4 = 2m

## 19 Contractions

Circle the two words that mean the same as the underlined word.

Sample: He's a good dog

He has He was [✓ He is]

1. I'm here now.

I am I will It is

2. Don't run into the street.

Did not Do not He did

3. Today it's hot.

this is it has it is

4. We're going home.

We can We are We will

3= 1m
4= 2m

---

## 20 Syllables

If the word has two or more syllables, put a line to divide each syllable.

Sample: win/ter

1. today
2. seeing
3. giant
4. puppy
5. black
6. holiday

3 = 1m
6 = 2m

22 **Prefixes** Put a circle around the prefix in each word.

Sample: misname

1. replay
2. preset
3. dislike
4. unhappy

2 = 1m
4 = 2m

---

23 **Base Words** Put a circle around the base word in each word.

Sample: boys

1. jumping
2. retell
3. boxes
4. actor

2 = 1m
4 = 2m

---

24 **Suffixes** (or word endings) Put a circle around the suffix in each word.

Sample: fooling

1. wanted
2. hopeful
3. girls
4. friendly

2 = 1m
4 = 2m

25 Homophones (Homonyms) Put a circle around A, B, or C to show the correct word.

Sample:

Ann went with _____ boys.

[✓ A.] two B. to C. too

1. Bill ran ____ find Bob.

A. two B. to C. too

2. We are going ____ run and jump.

A. two B. to C. too

3. I have a cat and I want a dog ____.

A. two B. to C. too

4. I saw ____ cats.

A. two B. to C. too

5. The ____ was in the sky.

A. son B. sun

6. His ____ was a good boy.

A. son B. sun

3 = 1m
6 = 2m

26

## TABLE OF CONTENTS

The Yellow Duck . . . . . . . . . . . . . 13

The Red Bow . . . . . . . . . . . . . . . 18

The Blue Sky . . . . . . . . . . . . . . 21

The Pink Dress . . . . . . . . . . . . . 25

1. The Red Bow begins on page ______.
2. The Pink Dress starts on page _____.

---

## TABLE OF CONTENTS

My Dog Snoopy . . . . . . . . . . . . . 98

A Blue Airplane . . . . . . . . . . . .107

The Little Red Hen . . . . . . . . . . .115

The Lion and the Mouse . . . . . . . .120

The Three Little Pigs . . . . . . . . .127

3. On what page would you find a story that was not about an animal? ________
4. Which story comes 3rd in the book?
   - A. My Dog Snoopy
   - B. The Little Red Hen
   - C. The Lion and the Mouse

2 = 1m
4 = 2m

STRUCTURAL ANALYSIS AND STUDY LOCATIONAL SKILLS - LEVEL I
ANSWER SHEET

NAME

**Alphabetizing** 13

1. b ___ d ___ ___ g

2. m ___ ___ p ___ r

3. ___ just ___ ball ___ red

___ wagon ___ can ___ man

4. ___ beef ___ buy

___ boy ___ bring

2 = 1m
4 = 2m

**Compound Words** 14

1. looked
football
jumps
cowboy
wanted
bedroom
popcorn
ride

2. funny
window
doghouse
grandfather
picture
singing
little
airplane

1 = 1m
2 = 2m

**Context Clues** 15

1. A B C D
2. A B C D
3. A B C D
4. A B C D

2 = 1m
4 = 2m

**Synonyms** 17

1. A
B
C

2. A
B
C

3. A
B
C

4. A
B
C

2 = 1m
4 = 2m

**Antonyms** 18

1. A
B
C

2. A
B
C

3. A
B
C

4. A
B
C

2 = 1m
4 = 2m

**Contractions** 19

1. ______________ 2. ______________
3. ______________ 4. ______________

3 = 1m
4 = 2m

**Syllable Division** 20

1. today 2. seeing
3. giant 4. puppy
5. black 6. holiday

3 = 1m
6 = 2m

**Prefixes** 22

1. replay 2. preset
3. dislike 4. unhappy

2 = 1m
4 = 2m

**Base Words** 23

1. jumping 2. retell
3. boxes 4. actor

2 = 1m
4 = 2m

**Suffixes** 24

1. wanted 2. hopeful
3. girls 4. friendly

2 = 1m
4 = 2m

**Homophones** 25

1. A B C 2. A B C
3. A B C 4. A B C
5. A B 6. A B

3 = 1m
6 = 2m

**Table of Contents** 26

1. ______________ 2. ______________
3. ______________ 4. A B C

2 = 1m
4 = 2m

## STRUCTURAL ANALYSIS AND STUDY LOCATIONAL SKILLS - LEVEL I
## ANSWER KEY

### Alphabetizing 13

1. b c d e f g
2. m n o p q r
3. 3 just 1 ball 5 red
   6 wagon 2 can 4 man
4. 1 beef 4 buy
   2 boy 3 bring

2 = 1m
4 = 2m

### Compound Words 14

1. looked
   ~~football~~
   jumps
   ~~cowboy~~
   wanted
   ~~bedroom~~
   ~~popcorn~~
   ride
2. funny
   window
   ~~doghouse~~
   ~~grandfather~~
   picture
   singing
   little
   ~~airplane~~

1 = 1m
2 = 2m

### Context Clues 15

1. A B [✓ C] D
2. [✓ A] B C D
3. A B C [✓ D]
4. A [✓ B] C D

2 = 1m
4 = 2m

### Synonyms 17

1. [✓ A] B C
2. A B [✓ C]
3. A [✓ B] C
4. A [✓ B] C

2 = 1m
4 = 2m

### Antonyms 18

1. A [✓ B] C
2. A [✓ B] C
3. [✓ A] B C
4. A B [✓ C]

2 = 1m
4 = 2m

### Contractions 19

1. I am
2. Do not
3. it is
4. We are

3 = 1m
4 = 2m

### Syllables 20

1. to/day
2. see/ing
3. gi/ant
4. pup/py
5. black
6. hol/i/day

3 = 1m
6 = 2m

### Prefixes 22

1. [✓ re]play
2. [✓ pre]set
3. [✓ dis]like
4. [✓ un]happy

2 = 1m
4 = 2m

### Base Words 23

1. [✓ jump]ing
2. re[✓ tell]
3. [✓ box]es
4. [✓ act]or

2 = 1m
4 = 2m

### Suffixes 24

1. want[✓ ed]
2. hope[✓ ful]
3. girl[✓ s]
4. friend[✓ ly]

2 = 1m
4 = 2m

### Homophones 25

1. A [✓ B] C
2. A [✓ B] C
3. A B [✓ C]
4. [✓ A] B C
5. A [✓ B]
6. [✓ A] B

3 = 1m
6 = 2m

### Table of Contents 26

1. 18
2. 25
3. 107
4. A [✓ B] C

2 = 1m
4 = 2m

126

Color Key:
1st____ 2nd____
3rd____ 4th____

## PRESCRIPTIVE CLASS RECORD
## STRUCTURAL ANALYSIS AND STUDY LOCATIONAL SKILLS
## LEVEL I

| | 13 | 14 | 15 | 17 | 18 | 19 | 20 | 22 | 23 | 24 | 25 | 26 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NAME | Alphabetizing | Compound Words | Context Clues | Synonyms | Antonyms | Contractions | Syllables | Prefixes | Base Words | Suffixes | Homophones | Table of Contents | |
| | 1 / 2 | 1 / 2 | 1 / 2 | 1 / 2 | 1 / 2 | 1 / 2 | 1 / 2 | 1 / 2 | 1 / 2 | 1 / 2 | 1 / 2 | 1 / 2 | |
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# STRUCTURAL ANALYSIS AND STUDY LOCATIONAL SKILLS

## LEVEL II

33 Synonyms: On your answer sheet put an X on the A, B, or C that shows which word is a synonym (means the same as the underlined words.)

Sample: big
A. long
X. large
C. small

1. quiet
A. quick
B. silent
C. loud

2. invisible
A. inside
B. unseen
C. visible

3. empty
A. bare
B. emit
C. full

4. found
A. followed
B. misplaced
C. discovered

2 = 3m
4 = 4m

---

34 Antonyms: On your answer sheet put an X on the A, B, or C that shows which word is an antonym (means the opposite of the underlined word.)

Sample: dry
X. wet
B. drip
C. hot

1. tired
A. wheels
B. calm
C. rested

2. comfortable
A. uncomfortable
B. complete
C. displeased

3. asked
A. answered
B. questioned
C. angry

4. enormous
A. giant
B. small
C. enlarged

2 = 3m
4 = 4m

Over

LEVEL II (cont.)

35 **Base Words and Affixes:** (Prefixes and Suffixes) Write the prefix of the word on the first line, write the base word on the second line, and the suffix on the third line.

Sample: disappearance

| Prefix | Base Word | Suffix |
|---|---|---|
| dis | appear | ance |

1. redoing ______ ______ ______
2. unhelpful ______ ______ ______
3. incorrectly ______ ______ ______
4. misspelled ______ ______ ______

2 = 3m
4 = 4m

---

36 **Prefixes:** (meaning.) Put an X on the letter that shows the meaning of the prefix.

Sample: re (as repeat)

[✓ A.] again
B. not
C. half

1. ex (as exhale)
   - A. top
   - B. out, out of
   - C. half

2. con (as converge)
   - A. with, together
   - B. against
   - C. top, peak

3. trans (as transport)
   - A. together
   - B. against
   - C. across

4. dis (as disown)
   - A. reverse, lack
   - B. with, together
   - C. again

2 = 3m
4 = 4m

**37** Suffixes (meaning) Put an X on the letter that shows the meaning of the suffix.

Sample: able, ible (washable)
[✓ A.] able
B. just
C. was

1. ing (throwing)
A. little
B. doing
C. was

2. less (helpless)
A. under
B. little
C. without

3. ward (westward)
A. in the direction of
B. in the form of
C. away from

4. ist (artist)
A. one who does special work
B. before
C. to make, to form into, put

2 = 3m
4 = 4m

---

**38** Syllables: In each of the following examples you will find one syllable that will not help you make a word. First find the word. Then find the extra syllable in each line. Mark the syllable that is extra.

Sample: A. est B. ter C. in [✓ D.] ly

1. A. ten B. re C. kit
2. A. ing B. ant C. play
3. A. lev B. en C. ment D. e
4. A. ter B. pen C. est D. car

2 = 3m
4 = 4m

Over

**39** Contractions: Draw a heavy line through the words that mean the same as the underlined word.

Sample: He'd do the work.
~~He would~~ He will He was

1. He hasn't any.
has not have not had not

2. We'll enjoy the play.
They will We will We are

3. You've won the game.
You will You are You have

4. They'd rather go to the beach.
They are They would That would

2 = 3m
4 = 4m

---

**40** Context Clues (Cloze Procedure): Put an X on the letter that shows the missing word.

Sample: My (1) ____________ is friendly.
(1) A. hat [✓ B.] dog C. car D. shoe

Some of nature's most interesting creatures cannot be seen with the naked eye. If it weren't for the microscope, a lot of (1) __________ life would be completely (2) __________ from human sight.

(1) A. space B. animal C. rocks D. rock
(2) A. most B. clowns C. out D. hidden

One interesting bird fights snakes. The road runner pecks at the (3) __________ of the snake. The snake is lucky to (4) ________ with its life.

(3) A. feet B. fingers C. head D. food
(4) A. guess B. escape C. read D. talk

2 = 3m
4 = 4m

41 **Alphabetizing:** Use numbers to show the alphabetical order of these words.

Sample:
2 under
1 ugly
4 utility
3 upbeat

| 1. | | 2. | | 3. | | 4. | |
|---|---|---|---|---|---|---|---|
| ___ | pail | ___ | hump | ___ | thank | ___ | around |
| ___ | penny | ___ | heat | ___ | throw | ___ | argue |
| ___ | puzzle | ___ | happen | ___ | thimble | ___ | arrange |
| ___ | pony | ___ | hilly | ___ | though | ___ | art |

2 = 3m
4 = 4m

42 **Table of Contents:** Write on the line, the page number that shows on which page the story starts.

TABLE OF CONTENTS

| | |
|---|---|
| THE CATTLE FAIR . . . . . . . . . | 251 |
| A FRIEND IN NEED. . . . . . . . . | 256 |
| EDISON'S ELECTRICITY. . . . . . . | 261 |
| EXCITEMENT IN THE AIR . . . . . | 266 |
| ONE FINE DAY . . . . . . . . . . . . | 270 |

Sample: ONE FINE DAY begins on what page? 270

1. On which page would you most likely find the beginning of a story about animals? ________
2. The story in which you would most likely find some facts begins on page ________.

2 = 3m, 4m

ANSWER SHEET
STRUCTURAL ANALYSIS AND STUDY LOCATIONAL SKILLS - LEVEL II

NAME ______________________

## Synonyms 33

1. A B C
2. A B C
3. A B C
4. A B C

2 = 3m
4 = 4m

## Antonyms 34

1. A B C
2. A B C
3. A B C
4. A B C

2 = 3m
4 = 4m

## Base Words and Affixes 35

| | Prefix | Base Word | Suffix |
|---|---|---|---|
| 1. | ____ | ______ | ____ |
| 2. | ____ | ______ | ____ |
| 3. | ____ | ______ | ____ |
| 4. | ____ | ______ | ____ |

2 = 3m
4 = 4m

## Prefixes 36

1. A B C
2. A B C
3. A B C
4. A B C

2 = 3m
4 = 4m

## Suffixes 37

1. A B C
2. A B C
3. A B C
4. A B C

2 = 3m
4 = 4m

## Syllable Division 38

1. A B C
2. A B C
3. A B C D
4. A B C D

2 = 3m
4 = 4m

## Contractions 39

1. has not have not had not
2. They will We will We are
3. You will You are You have
4. They are They would That would

2 = 3m
4 = 4m

## Context Clues (Cloze Procedure) 40

1. A B C D
2. A B C D
3. A B C D
4. A B C D

2 = 3m
4 = 4m

## Alphabetizing 41

1. ____ pail
____ penny
____ puzzle
____ pony

2. ____ hump
____ heat
____ happen
____ hilly

3. ____ thank
____ throw
____ thimble
____ though

4. ____ around
____ argue
____ arrange
____ art

2 = 3m
4 = 4m

## Table of Contents 42

1. ____________ 2. ____________

2m = 3m,4m

## ANSWER KEY
## STRUCTURAL ANALYSIS AND STUDY LOCATIONAL SKILLS - LEVEL II

### Synonyms — 33

1. A [✓ B] C
2. A [✓ B] C
3. [✓ A] B C
4. A B [✓ C]

2 = 3m
4 = 4m

### Antonyms — 34

1. A B [✓ C]
2. [✓ A] B C
3. [✓ A] B C
4. A [✓ B] C

2 = 3m
4 = 4m

### Base Words and Affixes — 35

| | Prefix | Base Word | Suffix |
|---|---|---|---|
| 1. | re | do | ing |
| 2. | un | help | ful |
| 3. | in | correct | ly |
| 4. | mis | spell | ed |

2 = 3m
4 = 4m

### Prefixes — 36

1. A [✓ B] C
2. [✓ A] B C
3. A B [✓ C]
4. [✓ A] B C

2 = 3m
4 = 4m

### Suffixes — 37

1. A [✓ B] C
2. A B [✓ C]
3. [✓ A] B C
4. [✓ A] B C

2 = 3m
4 = 4m

### Syllable Division — 38

1. A [✓ B] C
2. A [✓ B] C
3. A B [✓ C] D
4. A B [✓ C] D

2 = 3m
4 = 4m

### Contractions — 39

1. ~~has not~~ have not had not
2. They will ~~We will~~ We are
3. You will You are ~~You have~~
4. They are ~~They would~~ That would

2 = 3m
4 = 4m

### Context Clues (Cloze Procedure) — 40

1. A [✓ B] C D
2. A B C [✓ D]
3. A B [✓ C] D
4. A [✓ B] C D

2 = 3m
4 = 4m

### Alphabetizing — 41

1. 1 ____ pail
   2 ____ penny
   4 ____ puzzle
   3 ____ pony

2. 4 ____ hump
   2 ____ heat
   1 ____ happen
   3 ____ hilly

3. 1 ____ thank
   4 ____ throw
   2 ____ thimble
   3 ____ though

4. 2 ____ around
   1 ____ argue
   3 ____ arrange
   4 ____ art

2 = 3m
4 = 4m

### Table of Contents — 42

1. ____________ 251
2. ____________ 261

CVCSD/A215(184)6-77 2 = 3m, 4m

# PRESCRIPTIVE CLASS RECORD
# STRUCTURAL ANALYSIS AND STUDY LOCATIONAL SKILLS
## LEVEL II

Color Key:
1st____2nd____
3rd____4th____

| NAME | 33<br>Synonyms | 34<br>Antonyms | 35<br>Base Words & Affixes | 36<br>Prefixes (meaning) | 37<br>Suffixes (meaning) | 38<br>Syllables | 39<br>Contractions | 40<br>Context Clues | 41<br>Alphabet-izing | 42<br>Table of Contents | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 3 4 | 3 4 | 3 4 | 3 4 | 3 4 | 3 4 | 3 4 | 3 4 | 3 4 | 3 4 | |
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CVCSD/A215 (185)6-77

# STRUCTURAL ANALYSIS AND STUDY LOCATIONAL SKILLS

## LEVEL III

45 Base Words and Affixes: (Prefixes and Suffixes) Write the prefix on the first line, the base word on the second line, and the suffix on the third line.

Sample: misleading

| Prefix | Base Word | Suffix |
|---|---|---|
| mis | lead | ing |

| | Prefix | Base Word | Suffix |
|---|---|---|---|
| 1. encouragement | ______ | ________ | ______ |
| 2. impassable | ______ | ________ | ______ |
| 3. distortion | ______ | ________ | ______ |
| 4. international | ______ | ________ | ______ |

46 Meaning of the Prefixes: Write on the line, the letter that matches the prefix with its meaning.

A. semi (semifinals) B. anti (antisocial) C. mis (mislead) D. re (recapture) E. pro (pronoun)

1. ________ wrong, error
2. ________ again, anew
3. ________ half or partly
4. ________ against

47 Meaning of Word Roots taken from Greek and Latin: Write on the line the letter that matches the word root with its meaning.

A. photo B. tele C. visio D. bio E. auto

1. _____ far
2. _____ light
3. _____ see
4. _____ life

48 Meaning of the Suffixes: Write on the line the letter that matches the suffix with its meaning.

A. est (meanest) B. er (painter) C. able (sizable) D. ish (foolish) E. ous (dangerous)

1. _______ full of
2. _______ most
3. _______ one who does
4. _______ the manner of; like

Over

LEVEL III (cont.)

49 Alphabetizing: Use numbers to show the alphabetical order of these words.

Sample:
2 under
1 ugly
4 utility
3 upbeat

1.
___ photographic
___ photogram
___ photographer
___ photograph

2.
___ fortune
___ foreclose
___ forsake
___ forcible

3.
___ teletype
___ telemeter
___ telegram
___ telescope

---

50 Homophones: (Homonyms) - words that sound exactly the same, but have a different meaning and are spelled differently. Put an X on the letter that shows the best answer.

1. The wind ________________ the tall trees.
A. blue B. blew

2. Is that ______________ surfer a friend of yours?
A. lone B. loan

3. At the end of the war, we hope to have ______________.
A. peace B. piece

4. The mountain _________ was covered with snow.
A. peek B. peak

5. If you cut the ___________ it will bleed.
A. vein B. vane

6. There was a __________ in the shoe.
A. hole B. whole

LEVEL III (cont.)

51 Heteronyms (Diacritical Markings) - words with the same spelling, but with a different meaning and a different sound. Put an X on the letter that shows the best answer.

1. The ____________________ was gusty.

   A. wind (wĭnd)  B. wind (wīnd)

2. The________________ particle disappeared quickly.

   A. minute (mĭn′ ĭt)  B. minute (mī no͞ot′)

â = care
î = fierce
ô = for

3. Janet began to ______________ the ticket nervously.

   A. tear (târ)  B. tear (tîr)

4. The singers had a chance to __________their best pieces.

   A. record (rĕk′ ərd)  B. record (rĭ kôrd′)

---

52 Homographs - words that are spelled the same and pronounced the same, but have a different meaning. Put an X on the letter that shows the best answer.

1. We will __________ our money for more fun.

   A. pool (water)  B. pool (game)  C. pool(putting things together)

2. Bob's real ___________ was in horses.

   A. interest (attention)  B. interest (payment for use)
   C. interest (power in influence)

3. The ________________ was trying to hide at the bottom of the sea.

   A. school (a group of fish)
   B. school (a place for learning)

4. It's a ______________ shade of blue.

   A. light (a form of radiant energy)
   B. light (not dark)  C. light (not heavy)

Over

53 LEVEL III (cont.)

Guide Words: Using the Guide Words, write on the line the letter that shows on which page in the dictionary you would find the underlined word.

GUIDE WORDS

boundary- - - p. 132 - - bowhead

bowie knife - p. 133 - - box

boxwood - - p. 134 - - brag

braid - - - - p. 135 - - brash

brash - - - - p. 136 - - bread

break - - - - p. 137 - - breathe

Sample: The word braided would be on page C

A. 133
B. 134
C. 135
D. 136
E. 137
F. None of these

1. The word bright would be found on page ________.

A. 133
B. 134
C. 135
D. 136
E. 137
F. None of these

2. The word brace would be found on page ________.

A. 132
B. 133
C. 134
D. 135
E. 136
F. None of these

3. Would you find the word bovine:

A. before page 132
B. on page 132
C. after page 132
D. None of these

4. Would you find the word breather:

A. before page 137
B. on page 137
C. after page 137
D. None of these

LEVEL III (cont.)

54 Index: Using the Index, write on the line the page number(s) that shows on which page(s) you look to find answers to the questions.

Sample: On which page(s) would you find out about Indian education? 40-42,281

1. On what page(s) would you expect to find out about the Indian diet? ____________

2. You might find out if Indians played a ball game on page(s). ____________

3. On what page(s) would you expect to learn where the Yuman Indians lived? ____________

4. Information about how the Indians were ruled would most likely be found on page(s). ____________

## INDEX

| | |
|---|---|
| California Indians | |
| at the missions | 109-10, 112, 125-6 |
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Over

LEVEL III (cont.)

55 Reference Skills: Read each sentence, then put an X on the letter that shows the best answer.

1. If you wanted to find out the times of high and low tides in the Pacific Ocean, you would look in:

A. a dictionary
B. an atlas
C. an almanac
D. an encyclopedia

2. Where would you look to find out about the boyhood of President Truman?

A. a dictionary
B. an encyclopedia
C. a science book
D. an almanac

3. If you wanted to find out the meaning of the word "crustacean" you should look in:

A. an almanac
B. a dictionary
C. an atlas
D. a math book

4. If you wanted to locate a good map of Central America, the best place to look would be in:

A. an atlas
B. an almanac
C. a dictionary
D. a map of Antarctica

LEVEL III (cont.)

56 Parts of a Book: Read each sentence, then find the word(s) that best complete each sentence and put an X on the letter that shows the best answer.

1. The publisher of a book can be found:

A. on the title page
B. in the preface
C. in the appendix
D. in the glossary

2. A list of the chapter titles of a book would be found:

A. in the table of contents
B. in the glossary
C. in the appendix
D. on the title page

3. To find when a book was published, you would look at the:

A. title page
B. glossary
C. copyright page
D. forward

4. A table or graph not included in the text of a book would be found in the:

A. copyright
B. glossary
C. preface
D. appendix

# ANSWER SHEET
## STRUCTURAL ANALYSIS AND STUDY LOCATIONAL SKILLS - LEVEL III

NAME ____________

### Base Words and Affixes

45

| | Prefix | Base Word | Suffix |
|---|---|---|---|
| 1. | ______ | ________ | ______ |
| 2. | ______ | ________ | ______ |
| 3. | ______ | ________ | ______ |
| 4. | ______ | ________ | ______ |

3 = 5m
4 = 6m

### Prefixes (Meaning of)

46

1. ____________ 2. ____________
3. ____________ 4. ____________

3 = 5m
4 = 6m

### Word Roots (Meaning of)

47

1. ____________ 2. ____________
3. ____________ 4. ____________

3 = 5m
4 = 6m

### Suffixes (Meaning of)

48

1. ____________ 2. ____________
3. ____________ 4. ____________

3 = 5m
4 = 6m

### Alphabetizing

49

1. ___ photographic
___ photogram
___ photographer
___ photograph

2. ___ fortune
___ foreclose
___ forsake
___ forcible

3. ___ teletype
___ telemeter
___ telegram
___ telescope

1 = 5m
3 = 6m

### Homophones (Homonyms)

50

1. A B 2. A B
3. A B 4. A B
5. A B 6. A B

5 = 5m
6 = 6m

### Heteronyms

51

1. A B 2. A B
3. A B 4. A B

3 = 5m
4 = 6m

### Homographs

52

| 1. | 2. | 3. | 4. |
|---|---|---|---|
| A | A | A | A |
| B | B | B | B |
| C | C | C | C |

3 = 5m
4 = 6m

### Guide Words

53

1. ____________ 2. ____________
3. ____________ 4. ____________

2 = 5m
4 = 6m

### Index

54

1. ____________ 2. ____________
3. ____________ 4. ____________

3 = 5m
4 = 6m

### Reference Skills

55

1. A B C D
2. A B C D
3. A B C D
4. A B C D

3 = 5m
4 = 6m

### Parts of a Book

56

1. A B C D
2. A B C D
3. A B C D
4. A B C D

3 = 5m
4 = 6m

# ANSWER KEY
# STRUCTURAL ANALYSIS AND STUDY LOCATIONAL SKILLS - LEVEL III

## Base Words and Affixes 45

| | Prefix | Base Word | Suffix |
|---|---|---|---|
| 1. | en | courage | ment |
| 2. | im | pass | able |
| 3. | dis | tor | tion |
| 4. | inter | nation | al |

3 = 5m
4 = 6m

## Prefixes (Meaning of) 46

1. C 2. D
3. A 4. B

3 = 5m
4 = 6m

## Word Roots (Meaning of) 47

1. B 2. A
3. C 4. D

3 = 5m
4 = 6m

## Suffixes (Meaning of) 48

1. E 2. A
3. B 4. D

3 = 5m
4 = 6m

## Alphabetizing 49

1. 4 photographic
1 photogram
3 photographer
2 photograph

2. 4 fortune
2 foreclose
3 forsake
1 forcible

3. 4 teletype
2 telemeter
1 telegram
3 telescope

1 = 5m
3 = 6m

## Homophones (Homonyms) 50

1. A [✓ B] 2. [✓ A] B
3. [✓ A] B 4. A [✓ B]
5. [✓ A] B 6. [✓ A] B

5 = 5m
6 = 6m

## Heteronyms 51

1. [✓ A] B 2. A [✓ B]
3. [✓ A] B 4. A [✓ B]

3 = 5m
4 = 6m

## Homographs 52

1. A B [✓ C] 2. [✓ A] B C 3. [✓ A] B C 4. A [✓ B] C

3 = 5m
4 = 6m

## Guide Words 53

1. F 2. C
3. B 4. C

2 = 5m
4 = 6m

## Index 54

1. 21-24,117 2. 44-46
3. 30 4. 34-35,276

3 = 5m
4 = 6m

## Reference Skills 55

1. A B [✓ C] D 2. A [✓ B] C D
3. A [✓ B] C D 4. [✓ A] B C D

3 = 5m
4 = 6m

## Parts of a Book 56

1. [✓ A] B C D 2. [✓ A] B C D
3. A B [✓ C] D 4. A B C [✓ D]

3 = 5m
4 = 6m

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# PRESCRIPTIVE CLASS RECORD
# STRUCTURAL ANALYSIS AND STUDY LOCATIONAL SKILLS
## LEVEL III

Color Key:
1st____2nd____
3rd____4th____

| | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NAME | Affixes and Base Words | Prefixes (meaning) | Word Roots (meaning) | Suffixes (meaning) | Alphabetizing | Homophones | Heteronyms | Homographs | Guide Words | Index | Reference Skills | Parts of Book | |
| | 5/6 | 5/6 | 5/6 | 5/6 | 5/6 | 5/6 | 5/6 | 5/6 | 5/6 | 5/6 | 5/6 | 5/6 | |
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# APPENDIX

## HELPFUL HINTS FOR SUCCESSFUL DIAGNOSTIC TESTING

1. Determine which tests are appropriate for students. Obtain the tests from a predetermined source in the school building.

2. Write students' names on the tests ahead of time. By doing this, less time is taken during testing time and each student is assured of getting the appropriate level test.

3. Have work available for those not directly involved with the teacher during the testing session. It is helpful to have several fun and meaningful worksheets available. Tasks that are not finished too quickly and that are self-directing help keep students quietly involved so the teacher working with the testing group is not interrupted and the children being tested are not distracted.

4. Set a comfortable tone for the testing. Help students understand that the testing will show which skills they already know and which skills need improvement. Also explain to the students their reading program will be planned directly from the information gained. The students should know that they will not be given a grade on these tests. The tests are used only for assessing skills.

5. Do not attempt to teach your regular reading program during the testing period. The time used in administering the diagnostic tests will be very worthwhile. Information gained will allow the teacher to individualize the reading program and provide for flexible skill groups to meet the needs of students.

6. A suggested testing schedule may be found on pages 208 to 211. Project teachers found this schedule very helpful in planning and pacing their assessment program.

   Follow the suggested testing schedule as closely as possible. In this way, the testing and recording will be completed quickly and prescriptive lesson planning can be under way.

# FIRST ASSESSMENT PERIOD

## FIRST TESTING DAY

While the class is engaged in a self-directing activity such as silent reading, begin administering the San Diego Quick Assessment. Set aside three half hour blocks of time during the day. During each of these periods plan to test eight to ten individual students. Teachers find that as they become more familiar with the test, the testing time is shortened.

Recording on the Individual Records (pages 19 or 23)is done automatically as the test is given. From these records, complete the Class Record (page 21) and make a list of comprehension tests needed by the students. The easiest way of organizing for the comprehension tests is as follows:

Make a list of possible tests and write the student's names as needed. For example:

| Test 16 | Test 21 | Test 27 | Test 32 | Test 43 |
|---|---|---|---|---|
| Carla | Joe | Dean | Henry | Jill |
| Betty | Bill | Kathy | Maria | Wayne |
|  | Jan | Missy | Sean | Cliff |
|  |  | Manuel |  |  |

## SECOND TESTING DAY

Before morning recess:

Do one or two phonics tests at the lowest level appropriate for the students.

Between morning recess and lunch:

Finish the San Diego Quick Assessment.

After testing:

Transfer the information from the Individual San Diego Quick Record to the San Diego Quick Class Record. Make a list of students who need further tests. Correct and record the phonics tests. Make a list of students who need further tests.

## THIRD TESTING DAY

Before morning recess:

Give appropriate levels of the comprehension tests. Start with the students who need the lowest level test. Give any further phonics tests needed.

Between recess and lunch:

Give appropriate level of Structural Analysis Test. Primary students should only take half of the test at one sitting.

After testing:

Correct and record. Prepare lists and organize tests for the next day's testing.

## FOURTH TESTING DAY

Before morning recess:

Give second comprehension test to students whose scores indicate a need for further testing.

Between recess and lunch:

Give second Structural Analysis Test, if needed (or second half of the first test).

After testing:

Correct and record. Prepare a list and organize any tests which still need to be given.

## FIFTH TESTING DAY

Give any remaining tests in Visual and Auditory Discrimination, Structural Analysis, and Comprehension to students who indicate a need.

## EXAMPLE OF A FIVE DAY TESTING SCHEDULE

The following are examples of a work sheet the Project teachers found helpful in organizing their test groups. (*List students' names in appropriate column.*)

FIRST DAY *Monday*

Before Recess (*8:30-9:00*) After Recess (*10:00-10:30*) After Lunch (*1:00-1:30*)

| Teacher Directed | Students Working Independently |
|---|---|
| *Administer the San Diego Quick Assessment Test to 8 to 10 children at each time interval.* | *Film strip center*<br>*Visiting the library*<br>*Silent reading*<br>*ITV Program* |

SECOND DAY *Tuesday*

| Before Recess (*9:00-9:30*) | | After Recess (*10:00-11:00*) | |
|---|---|---|---|
| Teacher Directed | Students Working Independently | Teacher Directed | Students Working Independently |
| *Administer the appropriate phonics test* | *Word Hunt Worksheet*<br>*Silent reading when finished with the work sheet* | *Finish the San Diego Quick Assessment* | *Story writing using Story Starters* |

THIRD DAY *Wednesday*

| Before Recess (*8:30-9:30*) | | After Recess (*10:00-11:00*) | |
|---|---|---|---|
| Teacher Directed | Students Working Independently | Teacher Directed | Students Working Independently |
| *Comprehension* | | *Structural Analysis Test* | |
| *Whole class for upper grade* | *None* | *Whole class* | *None* |
| *Groups of ten for Primary* | | | *Except upper grade students should have an activity to do quietly as they finish* |
| *Phonics Test*<br>*Next test higher for students who passed 2-letter clusters* | *Listening post*<br>*Drawing picture*<br>*Story to go with picture*<br>*Silent reading* | | *Note: Primary students will finish together as it is a teacher directed activity* |
| *Phonics Test*<br>*Test 3-letter clusters for anyone who did not pass Other Vowel Test* | | | |

## EXAMPLE OF A FIVE DAY TESTING SCHEDULE (Cont.)

### FOURTH DAY *Thursday*

| Before Recess *(8:30-9:30)* | | After Recess *(10:00-11:00)* | |
|---|---|---|---|
| **Teacher Directed** | **Students Working Independently** | **Teacher Directed** | **Students Working Independently** |
| *Give second Comprehension Test to students whose score indicates a need for further testing* | *Fun worksheet, i.e., Word Hunt*<br>*Independent Level Task Cards* | *Upper Grades: Give the second Structural Analysis Test to students whose score indicates a need for further testing*<br>*Primary: Give second part of the Level I Structural Analysis Test* | *Games at the Independent Level*<br>*Silent reading* |

### FIFTH DAY *Friday*

| Teacher Directed | Students Working Independently |
|---|---|
| *Give any remaining tests of Auditory and Visual Discrimination, Structural Analysis or Comprehension to students who indicate a need* | *Silent reading*<br>*Independent Task Cards*<br>*Games*<br>*Write a story* |

## RETESTING SCHEDULE

## SECOND, THIRD AND FOURTH ASSESSMENT PERIODS

Before the first day of testing, check class records to determine which tests are needed by which children.

In Comprehension, test the students on the level where they did not gain mastery in three or more areas. Organize the tests and put students' names on them so the tests will be ready to administer.

The Structural Analysis testing takes the most preparation. Students need to take only the tests on which they did not receive mastery. Put students' names on tests or answer sheets. Primary teachers may wish to give students just single sheets of the tests which they need. Cross out any tests that have been passed. Upper grade teachers should take the appropriate student answer sheet and circle the tests needed to be taken, or cross out the ones not needed.

## RETESTING SCHEDULE

### FIRST TESTING DAY

Note: Be sure to use a different colored pencil for recording skill mastery in each testing period.

Before recess:

Test at least half of the class on the San Diego Quick Assessment. Begin with the Student's Independent Level (missing one item) as indicated at the last testing period.

After recess:

Give students the next phonics test they have not passed.

After testing:

Correct and record the phonics test and make a list of any students who need further testing in phonetic skills. Record the SDQA on the Class Record.

### SECOND TESTING DAY

Before recess:

Give students the Comprehension Skills Test that is appropriate.

After recess:

Give any phonics tests that are appropriate.

After testing:

Correct and record. Prepare tests for next day's testing.

## THIRD TESTING DAY

Before recess:

Give the Structural Analysis tests as needed.

After recess:

Give Comprehension Skills Tests to any students who have not missed in three or more areas on a previous test.

After testing:

Correct and record. Prepare tests for any students who need further testing.

## FOURTH TESTING DAY

Give any tests that are still indicated for students who have made large gains.

Give any remaining tests in Visual and Auditory Discrimination, Structural Analysis, and Comprehension to students who indicate a need.

NAME______________________________

## PUPIL PROFILE

Color Key:
1st___ 2nd___
3rd___ 4th___

### VISUAL AND AUDITORY DISCRIMINATION

| | | | | | |
|---|---|---|---|---|---|
| 1 | Matching | | 9 | Initial 2-Letter Clusters | |
| 2 | Upper Case | | 11 | Long and Short Vowels | L / S |
| 3 | Lower Case | | 12 | Consonant Digraphs | I / F |
| 4 | Initial Consonants | | 28 | Final 2-Letter Clusters | |
| 5 | Rhyming | | 29 | Initial 3-Letter Clusters | |
| 8 | Final Consonants | | 31 | Other Vowel Sounds | |

S D Q A

| | |
|---|---|
| RR$^1$ | |
| RR$^2$ | |
| RR$^3$ | |
| PP | |
| P | |
| 1 | |
| 2 | |
| 3 | |
| 4 | |
| 5 | |
| 6 | |
| 7 | |
| 8 | |
| 9 | |
| 10 | |
| 11 | |

### STRUCTURAL ANALYSIS AND LOCATIONAL SKILLS

| Test Level | | I | II | III | Test Level | | I | II | III |
|---|---|---|---|---|---|---|---|---|---|
| Grade Level | | 1/2 | 3/4 | 5/6 | Grade Level | | 1/2 | 3/4 | 5/6 |
| 13,41<br>49 | Alphabetizing | / | / | / | 25,50 | Homophones | / | ■ | / |
| 14 | Compound Words | / | ■ | ■ | 26,42 | Table of Contents | / | / | ■ |
| 15,40 | Context Clues | / | / | ■ | 35,45 | Affixes & Base Words | ■ | / | / |
| 17,22 | Synonyms | / | / | ■ | 47 | Word Roots | ■ | ■ | / |
| 18,34 | Antonyms | / | / | ■ | 51 | Heteronyms | ■ | ■ | / |
| 19,39 | Contractions | / | / | ■ | 52 | Homographs | ■ | ■ | / |
| 20,38 | Syllables | / | / | ■ | 53 | Guide Words | ■ | ■ | / |
| 22,36<br>46 | Prefixes | / | / | / | 54 | Index | ■ | ■ | / |
| 23 | Base Words | / | ■ | ■ | 55 | Reference Skills | ■ | ■ | / |
| 24,37<br>48 | Suffixes | / | / | / | 56 | Parts of Book | ■ | ■ | |

### COMPREHENSION SKILLS

| Grade | PP$^1$ | PP$^2$ | P | 1 | 2$^1$ | 2$^2$ | 3$^1$ | 3$^2$ | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Level | 6 | 7 | 10 | 16 | 21 | 27 | 30 | 32 | 43 | 44 | 57 | 58 | 59 | 60 | 61 |
| Instructional Level | | | | | | | | | | | | | | | |

| Strengths + | | Needs Improvement − | | | |
|---|---|---|---|---|---|
| Supporting Details | Sequence | Relationships | Inference | Main Idea | Making Judgments |
| | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |

## DIRECTIONS FOR THE CUMULATIVE RECORD FORM

The Cumulative Record Form is meant to be placed in the student's Cumulative Folder in the School Office. Each year, the teacher should update the information.

Alternatives for filling out the Cumulative Record Form:

1. The teacher may mark the student's Cumulative Record Form just once (at the end of the school year) in order to indicate skills mastered during that year. The exception is the San Diego Quick Assessment Section which needs a Pre and Post score recorded.

2. If more information is desired, the teacher may quickly mark on the card the new skills mastered at each testing period. By using the proper colored pencil, the record will show the time of year the student mastered the skill. This will also eliminate much of the recording time at the end of the year.

The first section is used to indicate the Pre (beginning of the year) and the Post (end of the year) scores for the San Diego Quick Assessment. In this section, the teacher marks in the boxes under the designated grade; i.e., the first grade teacher might mark various first grade children in the following way:

| Grade Level | Pre | 1 | Post |
|---|---|---|---|
| Reading Level | K.7 | | 2.0 |

| Grade Level | Pre | 1 | Post |
|---|---|---|---|
| Reading Level | K.3 | | 1.5 |

| Grade Level | Pre | 1 | Post |
|---|---|---|---|
| Reading Level | 1.3 | | 2.5 |

CHULA VISTA CITY SCHOOL DISTRICT
INDIVIDUAL PUPIL PROFILE
CUMULATIVE RECORD FORM

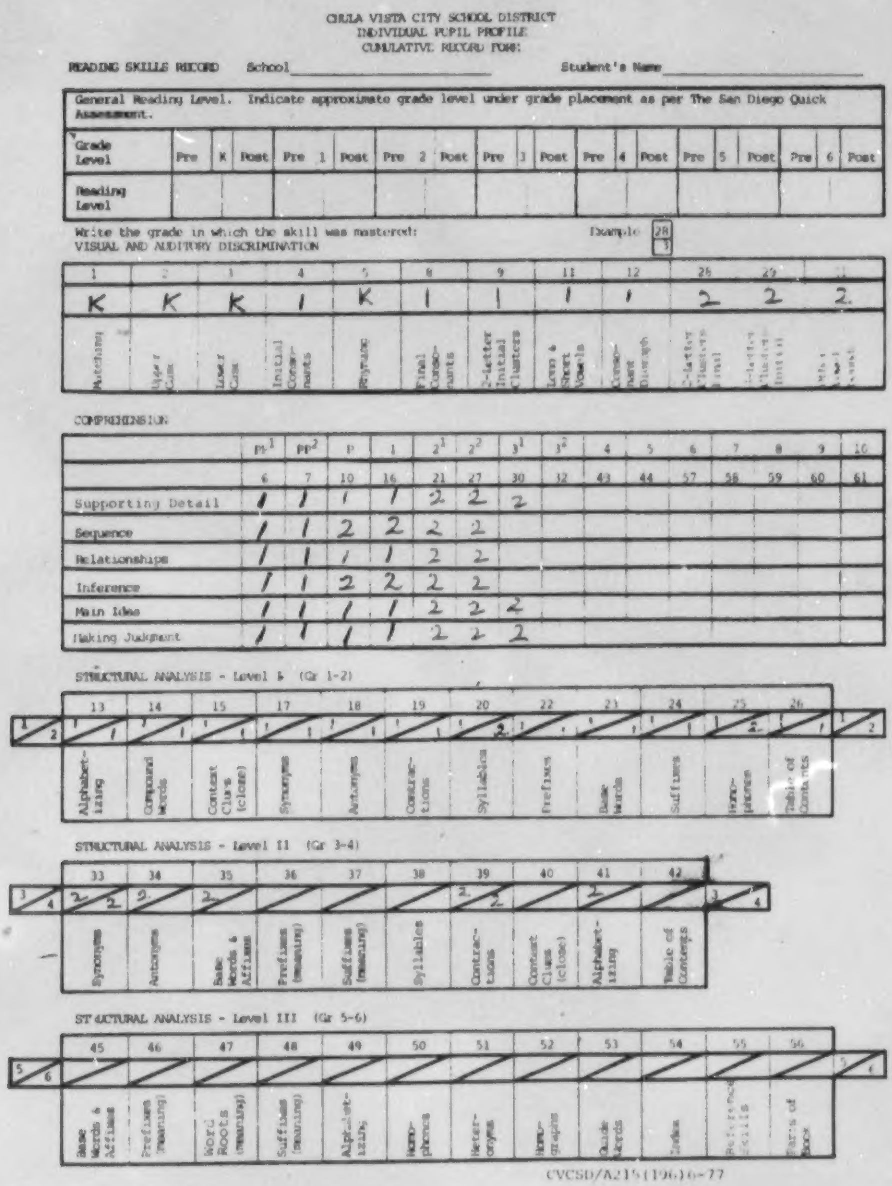
READING SKILLS RECORD School________________ Student's Name________________

General Reading Level. Indicate approximate grade level under grade placement as per The San Diego Quick Assessment.

| Grade Level | Pre | K | Post | Pre | 1 | Post | Pre | 2 | Post | Pre | 3 | Post | Pre | 4 | Post | Pre | 5 | Post | Pre | 6 | Post |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reading Level | K.1 | | K.9 | K.7 | | 2.0 | | | | | | | | | | | | | | | |

DIRECTIONS FOR THE CUMULATIVE RECORD FORM (Cont.)

In the Visual and Auditory Discrimination, Comprehension and Structural Analysis sections, the teacher marks the student's actual grade level at the time of mastery. For example, a student might master the Other Vowel Test #31 (which is probably a third grade skill) in 2nd grade; therefore, the card would look like this:



CHULA VISTA CITY SCHOOL DISTRICT
INDIVIDUAL PUPIL PROFILE
CUMULATIVE RECORD FORM

READING SKILLS RECORD School____________________ Student's Name____________________

General Reading Level. Indicate approximate grade level under grade placement as per The San Diego Quick Assessment.

| Grade Level | Pre | K | Post | Pre | 1 | Post | Pre | 2 | Post | Pre | 3 | Post | Pre | 4 | Post | Pre | 5 | Post | Pre | 6 | Post |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Reading Level | | | | | | | | | | | | | | | | | | | | | |

Write the grade in which the skill was mastered: Example 28 / 3
VISUAL AND AUDITORY DISCRIMINATION

| 1 | 2 | 3 | 4 | 5 | 8 | 9 | 11 | 12 | 28 | 29 | 31 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| K | K | K | 1 | K | 1 | 1 | 1 | 1 | 2 | 2 | 2 |
| Matching | Upper Case | Lower Case | Initial Consonants | Rhyming | Final Consonants | 2-Letter Initial Clusters | Long & Short Vowels | Consonant Digraph | 3-Letter Clusters Final | 3-Letter Clusters Initial | [illegible] |

COMPREHENSION

| | PP¹ | PP² | P | 1 | 2¹ | 2² | 3¹ | 3² | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 6 | 7 | 10 | 16 | 21 | 27 | 30 | 32 | 43 | 44 | 57 | 58 | 59 | 60 | 61 |
| Supporting Detail | 1 | 1 | 1 | 1 | 2 | 2 | 2 | | | | | | | | |
| Sequence | 1 | 1 | 2 | 2 | 2 | 2 | | | | | | | | | |
| Relationships | 1 | 1 | 1 | 1 | 2 | 2 | | | | | | | | | |
| Inference | 1 | 1 | 2 | 2 | 2 | 2 | | | | | | | | | |
| Main Idea | 1 | 1 | 1 | 1 | 2 | 2 | 2 | | | | | | | | |
| Making Judgment | 1 | 1 | 1 | 1 | 2 | 2 | 2 | | | | | | | | |

STRUCTURAL ANALYSIS - Level I (Gr 1-2)

| | 13 | 14 | 15 | 17 | 18 | 19 | 20 | 22 | 23 | 24 | 25 | 26 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 / 2 | 1 / 1 | 1 / 1 | 1 / 1 | 1 / 1 | 1 / 1 | 1 / 1 | 1 / 2 | 1 / 1 | 1 / 1 | 1 / 1 | 1 / 2 | 1 / 1 | 1 / 2 |
| | Alphabetizing | Compound Words | Context Clues (cloze) | Synonyms | Antonyms | Contractions | Syllables | Prefixes | Base Words | Suffixes | Homophones | Table of Contents | |

STRUCTURAL ANALYSIS - Level II (Gr 3-4)

| | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 / 4 | 2 / 2 | 2 / | 2 / | / | / | / | 2 / 2 | / | 2 / | / | 3 / 4 |
| | Synonyms | Antonyms | Base Words & Affixes | Prefixes (meaning) | Suffixes (meaning) | Syllables | Contractions | Context Clues (cloze) | Alphabetizing | Table of Contents | |

STRUCTURAL ANALYSIS - Level III (Gr 5-6)

| | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 / 6 | / | / | / | / | / | / | / | / | / | / | / | / | 5 / 6 |
| | Base Words & Affixes | Prefixes (meaning) | Word Roots (meaning) | Suffixes (meaning) | Alphabetizing | Homophones | Heteronyms | Homographs | Guide Words | Index | Reference Skills | Parts of Book | |

CVCSD/A215(196)6-77

CHULA VISTA CITY SCHOOL DISTRICT
INDIVIDUAL PUPIL PROFILE
CUMULATIVE RECORD FORM

READING SKILLS RECORD School________________________ Student's Name____________________

| General Reading Level. Indicate approximate grade level under grade placement as per The San Diego Quick Assessment. | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Grade Level | Pre | K | Post | Pre | 1 | Post | Pre | 2 | Post | Pre | 3 | Post | Pre | 4 | Post | Pre | 5 | Post | Pre | 6 | Post |
| Reading Level | | | | | | | | | | | | | | | | | | | | | |

Write the grade in which the skill was mastered: Example 28 / 3

VISUAL AND AUDITORY DISCRIMINATION

| 1 | 2 | 3 | 4 | 5 | 8 | 9 | 11 | 12 | 28 | 29 | 31 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | |
| Matching | Upper Case | Lower Case | Initial Conso-nants | Rhyming | Final Conso-nants | Initial 2-Letter Clusters | Long & Short Vowels | Conso-nant Digraph | Final 2-Letter Clusters | Initial 3-Letter Clusters | Other Vowel Sounds |

COMPREHENSION

| | PP$^1$ | PP$^2$ | P | 1 | $2^1$ | $2^2$ | $3^1$ | $3^2$ | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 6 | 7 | 10 | 16 | 21 | 27 | 30 | 32 | 43 | 44 | 57 | 58 | 59 | 60 | 61 |
| Supporting Detail | | | | | | | | | | | | | | | |
| Sequence | | | | | | | | | | | | | | | |
| Relationships | | | | | | | | | | | | | | | |
| Inference | | | | | | | | | | | | | | | |
| Main Idea | | | | | | | | | | | | | | | |
| Making Judgment | | | | | | | | | | | | | | | |

STRUCTURAL ANALYSIS - Level I (Gr 1-2)

| | 13 | 14 | 15 | 17 | 18 | 19 | 20 | 22 | 23 | 24 | 25 | 26 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 / 2 | | | | | | | | | | | | | 1 / 2 |
| | Alphabet-izing | Compound Words | Context Clues (cloze) | Synonyms | Antonyms | Contrac-tions | Syllables | Prefixes | Base Words | Suffixes | Homo-phones | Table of Contents | |

STRUCTURAL ANALYSIS - Level II (Gr 3-4)

| | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 / 4 | | | | | | | | | | | 3 / 4 |
| | Synonyms | Antonyms | Base Words & Affixes | Prefixes (meaning) | Suffixes (meaning) | Syllables | Contrac-tions | Context Clues (cloze) | Alphabet-izing | Table of Contents | |

STRUCTURAL ANALYSIS - Level III (Gr 5-6)

| | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 / 6 | | | | | | | | | | | | | 5 / 6 |
| | Base Words & Affixes | Prefixes (meaning) | Base Words (meaning) | Suffixes (meaning) | Alphabet-izing | Homo-phones | Heter-onyms | Homo-graphs | Guide Words | Index | Reference Skills | Parts of Book | |

CVCSD/A215(196)6-77

Color Key:
1st____ 2nd____
3rd____ 4th____

# OPTIONAL RECORD SHEET

| NAME | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
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# SKILL GROUP PLANNING SHEET

Teacher ______________________

Dates ______________________

Skill Group ______________________

Time of Day ______________________

| Students Names | Activities & Materials | How Effective? |
|---|---|---|
| | | |

Skill Group ______________________

Time of Day ______________________

| Students Names | Activities & Materials | How Effective? |
|---|---|---|
| | | |

## MEDIAL CONSONANTS

DIRECTIONS: I am going to read some words that do not make sense. Listen carefully. Beside the correct number on your answer sheet write the letter that represents the consonant sound you hear in the middle of each word.

NOTE: *Since this is a test on sounds, not on spelling, any answer in parentheses should be accepted.*

| | | |
|---|---|---|
| Example: | mared | (r) |
| 1. | zibet | (b) |
| 2. | caland | (l) |
| 3. | sidel | (d) |
| 4. | watun | (t) |
| 5. | dinest | (n) |
| 6. | divem | (v) |
| 7. | mohit | (h) |
| 8. | depit | (p) |
| 9. | lagat | (g) |
| 10. | vissant | (s/c) |
| 11. | bafing | (f) |
| 12. | samut | (m) |
| 13. | rarent | (r) |
| 14. | takin | (k/c) |

## SILENT LETTERS

**DIRECTIONS:** I am going to read some words. Look at your work sheet. Each word has one or two silent letters. Write the silent letter, or letters, on the line next to the word.

| | | |
|---|---|---|
| 1. | sign | (g) |
| 2. | know | (k, w) |
| 3. | fight | (gh) |
| 4. | listen | (t) |
| 5. | walk | (l) |
| 6. | sack | (c/k) |
| 7. | comb | (b) |
| 8. | write | (w, e) |
| 9. | gnaw | (g) |

NAME______________________

## STUDENT ANSWER SHEET

## MEDIAL CONSONANTS

1. ______________________
2. ______________________
3. ______________________
4. ______________________
5. ______________________
6. ______________________
7. ______________________
8. ______________________
9. ______________________
10. ______________________
11. ______________________
12. ______________________
13. ______________________
14. ______________________

## SILENT LETTERS

1. sign ______________________
2. know ______________________
3. fight ______________________
4. listen ______________________
5. walk ______________________
6. sack ______________________
7. comb ______________________
8. write ______________________
9. gnaw ______________________

## ALTERNATE

## 2 - LETTER CONSONANT CLUSTERS (BLENDS)

(initial position)

Nonsense Words

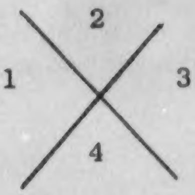
**DIRECTIONS:** I am going to read more words that do not make sense. Listen very carefully. Beside the correct number on your answer sheet, write the first two letters that represent the sound that starts each word.

**NOTE:** *Since this is a test on sounds, not on spelling, any answer in parentheses should be accepted.*

| | | | |
|---|---|---|---|
| | Example A - | stad | (st) |
| 1. | 1. | frop | (fr) |
| | 2. | trin | (tr) |
| | 3. | gris | (gr) |
| | 4. | drit | (dr) |
| | 5. | crag | (cr, kr) |
| | 6. | bren | (br) |
| | 7. | prat | (pr) |
| 2. | 8. | plat | (pl) |
| | 9. | blug | (bl) |
| | 10. | clag | (cl, kl) |
| | Example B - | dran | (dr) |
| | 11. | slad | (sl) |
| | 12. | glud | (gl) |
| | 13. | flam | (fl) |
| 3. | 14. | scop | (sc, sk) |
| | 15. | swit | (sw) |
| | 16. | stig | (st) |
| | 17. | spay | (sp) |
| | 18. | snab | (sn) |
| | 19. | smar | (sm) |
| | 20. | twiz | (tw) |

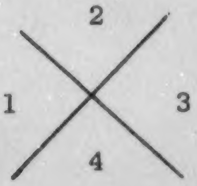
Key for Alternate Divided Comprehensive Visual and Auditory Discrimination Prescriptive Class Record.

2 Upper Case



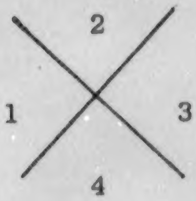
1. B A I S C D F
2. E P T M L R
3. Z J U H G W X
4. Q K V Y N O

3 Lower Case



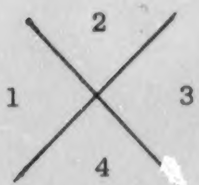
1. r o n l m y t
2. v k p z i a j
3. u s h b c g
4. w d f x q e

4 Consonant Sounds (Initial Position)



1. b s m g f
2. d w z j n
3. p l v r y
4. q h t c

8 Consonant Sounds (Final Position)



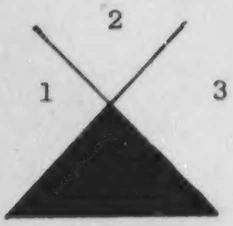
1. p z n
2. l t f
3. g b c (k)
4. m d r s

12 Consonant Digraphs (Initial Position)
Consonant Digraphs (Final Position)

Initial 1. sh ch th wh ph

Final 2. sh ch th ph(gh) ng

31 Other Vowels



1. Vowel Digraphs:
   ay/ai/ei/ey, ee/ea/y/ie, ie/ey/ai, oa/ow/ou/oe, oo/ew/ou/ue/ui, oo, au/aw
2. Diphthongs:
   ou/ow, oy/oi
3. R-Controlled:
   ar, ur/er/ir, or

Color Key:
1st___ 2nd___
3rd___ 4th___

# PRESCRIPTIVE CLASS RECORD
## VISUAL AND AUDITORY DISCRIMINATION - ALTERNATE
## DIVIDED COMPREHENSIVE RECORD

| NAME________________ | 1<br>Matching | 2<br>Upper Case | 3<br>Lower Case | 4<br>Initial Consonants | 5<br>Rhyming | 8<br>Final Consonants | 9<br>Initial 2-Letter Clusters | 11<br>Long & Short Vowels | 12<br>Consonant Digraphs | 28<br>Final 2-Letter Clusters | 29<br>Initial 3-Letter Clusters | 31<br>Other Vowel Sounds |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  | 2<br>1 3<br>4 | 2<br>1 3<br>4 | 2<br>1 3<br>4 |  | 2<br>1 3<br>4 | 2<br>1 3 | L<br>S | I<br>F |  |  | 2<br>1 3 |
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|  |  | 2<br>1 3<br>4 | 2<br>1 3<br>4 | 2<br>1 3<br>4 |  | 2<br>1 3<br>4 | 2<br>1 3 | L<br>S | I<br>F |  |  | 2<br>1 3 |
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|  |  | 2<br>1 3<br>4 | 2<br>1 3<br>4 | 2<br>1 3<br>4 |  | 2<br>1 3<br>4 | 2<br>1 3 | L<br>S | I<br>F |  |  | 2<br>1 3 |
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CVCSD/A215(200)6-77

# CHULA VISTA DIAGNOSTIC READING PROGRAM

## ORDER FORM

No Charge to Schools

Coordinator: ____________

School: ____________

### SAN DIEGO QUICK ASSESSMENT

| | | |
|---|---|---|
| ____A215(102) | San Diego Quick Assessment Words RR[1] - Primer (card stock) | 1 per teacher |
| ____A215(103) | San Diego Quick Assessment Words Grades 1 - 6 (card stock) | 1 per teacher |
| ____A215(104) | San Diego Quick Assessment Words Grades 7 - 11 (card stock) | 1 per teacher |
| ____A215(105) | SDQA Individual Student Record | 1 per student |
| ____A215(106) | SDQA Optional Class Record | 1 per teacher |
| ____A215(107) | SDQA Alternate Individual Student Record | 1 per student (as needed) |

### VISUAL AND AUDITORY DISCRIMINATION

| | | |
|---|---|---|
| ____A215(110) | Matching (card stock) | 1 per teacher K-2 |
| ____A215(111) | Upper Case Alphabet (card stock) | 1 per teacher K-2 |
| ____A215(112) | Lower Case Alphabet (card stock) | 1 per teacher K-2 |
| ____A215(113) | Rhyming (pictures) | 1 per student K-2 |
| ____A215(114) | Student Answer Sheet for Auditory Skills | 1 per student 1-4 |
| ____A215(115) | Student Answer Sheet for Auditory Skills | 1 per student 2-6 |
| ____A215(116) | Answer Key for Auditory Skills | 1 per teacher |
| ____A215(117) | Prescriptive Record - Divided Comprehensive | 2 per teacher |
| ____A215(118) | Prescriptive Record - Comprehensive | 1 per teacher |
| ____A215(119) | Prescriptive Record - Matching and Upper Case Alphabet | 1 per teacher K-1 |
| ____A215(120) | Prescriptive Record - Lower Case Alphabet | 1 per teacher K-1 |
| ____A215(121) | Prescriptive Record - Initial Consonants | 1 per teacher K-2 |
| ____A215(122) | Prescriptive Record - Rhyming and Final Consonants | 1 per teacher K-2 |
| ____A215(123) | Prescriptive Record - Initial 2-letter Consonant Clusters (Blends) | 1 per teacher 1-3 |
| ____A215(124) | Prescriptive Record - Long and Short Vowels | 1 per teacher 1-4 |
| ____A215(125) | Prescriptive Record - Consonant Digraphs | 1 per teacher 1-4 |
| ____A215(126) | Prescriptive Record - Final 2-letter Consonant Clusters (Blends) | 1 per teacher 1-4 |
| ____A215(127) | Prescriptive Record - Initial 3-letter Consonant Clusters (Blends) | 1 per teacher 1-4 |
| ____A215(128) | Prescriptive Record - Other Vowel Sounds | 1 per teacher 2-6 |

# CHULA VISTA DIAGNOSTIC READING PROGRAM

## ORDER FORM

No Charge to Schools

Coordinator: ____________

School: ______________

## COMPREHENSION

| | | | |
|---|---|---|---|
| ____A215(131) | Test #6 ($PP^1$)<br>Comprehension Test | (Non-consumable) | 1 per 2 students<br>grades K-3 |
| ____A215(132) | Questions | (Consumable) | 1 per 2 students<br>grades K-3 |
| ____A215(133) | Test #7 ($PP^2$)<br>Comprehension Test | (Non-consumable) | 1 per 2 students<br>grades K-3 |
| ____A215(134) | Questions | (Consumable) | 1 per 2 students<br>grades K-3 |
| ____A215(135) | Test #10 (P)<br>Comprehension Test | (Non-consumable) | 1 per 2 students<br>grades K-3 |
| ____A215(136) | Questions | (Consumable) | 1 per 2 students<br>grades K-3 |
| ____A215(137) | Test #16 (1)<br>Comprehension Test | (Non-consumable) | 1 per 2 students<br>grades K-3 |
| ____A215(138) | Questions | (Consumable) | 1 per 2 students<br>grades K-3 |
| ____A215(139) | Test #21 ($2^1$)<br>Comprehension Test | (Non-consumable) | 1 per 2 students<br>grades 1-4 |
| ____A215(140) | Questions | (Consumable grades 1-3) | 1 per 2 students<br>grades 1-4 |
| ____A215(141) | Test #27 ($2^2$)<br>Comprehension Test | (Non-consumable) | 1 per 2 students<br>grades 1-4 |
| ____A215(142) | Questions | (Consumable grades 1-3) | 1 per 2 students<br>grades 1-4 |
| ____A215(143) | Test #30 ($3^1$)<br>Comprehension Test | (Non-consumable) | 1 per 2 students<br>grades 2-5 |
| ____A215<br>(144A,B,C) | Questions | (Consumable grades 1-3) | 1 per 2 students<br>grades 2-5 |
| ____A215<br>(145A,B) | Test #32 ($3^2$)<br>Comprehension Test | (Non-consumable) | 1 per 2 students<br>grades 2-5 |
| ____A215<br>(146A,B,C) | Questions | (Consumable grades 1-3) | 1 per 2 students<br>grades 2-5 |
| ____A215(147) | Test #43 (4)<br>Comprehension Test | (Non-consumable) | 1 per 2 students<br>grades 4-6 |
| ____A215<br>(148A,B) | Questions | (Non-consumable) | 1 per 2 students<br>grades 4-6 |
| ____A215<br>(149A,B) | Test #44 (5)<br>Comprehension Test | (Non-consumable) | 1 per 2 students<br>grades 5-6 |

# CHULA VISTA DIAGNOSTIC READING PROGRAM

## ORDER FORM

No Charge to Schools

Coordinator: ____________

School: ____________

## COMPREHENSION (Cont.)

| | | | |
|---|---|---|---|
| ____A215 (150A,B) | Questions | (Non-consumable) | 1 per 2 students grades 5-6 |
| ____A215 (151A,B) | Test #57 (6)<br>Comprehension Test | (Non-consumable) | 1 per 2 students grade 6 |
| ____A215 (152A,B) | Questions | (Non-consumable) | 1 per 2 students grade 6 |
| ____A215(153) | Test #58 (7)<br>Comprehension Test | (Non-consumable) | 1 per 3 students grade 6 |
| ____A215 (154A,B) | Questions | (Non-consumable) | 1 per 3 students grade 6 |
| ____A215(155) | Test #59 (8)<br>Comprehension Test | (Non-consumable) | 1 per 3 students grade 6 |
| ____A215 (156A,B) | Questions | (Non-consumable) | 1 per 3 students grade 6 |
| ____A215 (157A,B) | Test #60 (9)<br>Comprehension Test | (Non-consumable) | 1 per 3 students grade 6 |
| ____A215 (158A,B) | Questions | (Non-consumable) | 1 per 3 students grade 6 |
| ____A215(159) | Test #61 (10)<br>Comprehension Test | (Non-consumable) | 1 per 3 students grade 6 |
| ____A215 (160A,B) | Questions | (Non-consumable) | 1 per 3 students grade 6 |
| ____A215(161) | Student Answer Sheet (Tests #6, #7, #10, #16, #21, #27) | | 1 per 2 students grades 4-6 |
| ____A215(162) | Student Answer Sheet (Tests #30, #32, #43, #44, #57, #58, #59, #60, #61) | | 1 per student grades 4-6 |
| ____A215(163) | Answer Key for Comprehension Skills Test | | 1 per teacher |
| ____A215(164) | Prescriptive Class Record (PP - 10) | | 5 per teacher |
| ____A215(165) | Prescriptive Class Record (PP - $3^2$) | | 3 per 1st grade teacher |

## CHULA VISTA DIAGNOSTIC READING PROGRAM

Coordinator: ____________

### ORDER FORM

School: ______________

No Charge to Schools

### STRUCTURAL ANALYSIS AND STUDY LOCATIONAL SKILLS

Level I

| | | |
|---|---|---|
| ___A215(170) | Alphabetizing, Compound Words | For initial screening these tests are ordered collated 1 per student in grades 1-4. After initial screening sheets may be ordered separately. Note: To be used consumably, grades 1-3. To be used non-consumably, grades 4-6. |
| ___A215(171) | Context Clues (Cloze Procedure) | |
| ___A215(172) | Synonyms, Antonyms | |
| ___A215(173) | Contractions, Syllables | |
| ___A215(174) | Prefixes, Base Words, Suffixes | |
| ___A215(175) | Homophones (Homonyms) | |
| ___A215(176) | Table of Contents | |
| ___A215(177) | Student Answer Sheet, Level I | 1 per student, grades 4-6 |
| ___A215(178) | Answer Key for Level I | 1 per teacher |
| ___A215(179) | Prescriptive Class Record, Level I | 1 per teacher |

Level II

| | | |
|---|---|---|
| ___A215 (180A,B) | Synonyms, Antonyms<br>Base Words and Affixes, Prefixes | These tests are ordered collated 1 per student in grades 3-6. After initial screening sheets may be ordered separately. Note: To be used consumably grades 1-3. To be used non-consumably grades 4-6. |
| ___A215 (181A,B) | Suffixes, Syllables<br>Contractions, Context Clues | |
| ___A215(182) | Alphabetizing, Table of Contents | |
| ___A215(183) | Student Answer Sheet, Level II | 1 per student, grades 4-6 |
| ___A215(184) | Answer Key for Level II | 1 per teacher |
| ___A215(185) | Prescriptive Class Record, Level II | 1 per teacher |

Level III

| | | |
|---|---|---|
| ___A215 (186A,B) | Base Words and Affixes, Meaning of the Prefixes, Meaning of Word Roots, Meaning of Suffixes<br>Alphabetizing, Homophones | These tests are ordered collated 1 per student, grades 5-6. Note: They are used non-consumably by students, grades 4-6. |
| ___A215 (187A,B) | Heteronyms, Homographs<br>Guide Words | |
| ___A215 (188A,B) | Index<br>Reference Skills | |
| ___A215(189) | Parts of a Book | |

## CHULA VISTA DIAGNOSTIC READING PROGRAM

## ORDER FORM

Coordinator: ____________

School: ________________

No Charge to Schools

### STRUCTURAL ANALYSIS AND STUDY LOCATIONAL SKILLS (Cont.)

| | | | |
|---|---|---|---|
| ___ | A215(190) | Student Answer Sheet, Level III | 1 per student grades 5-6 |
| ___ | A215(191) | Answer Key for Level III | 1 per teacher grades 3-6 |
| ___ | A215(192) | Prescriptive Class Record, Level III | 1 per teacher grades 3-6 |

### APPENDIX

| | | | |
|---|---|---|---|
| ___ | A215(195) | Pupil Profile | 1 per student |
| ___ | A215(196) | Individual Pupil Profile Cumulative Record | 1 per student |
| ___ | A215(197) | Optional Record Sheet (Blank) | 2 per teacher as needed |
| ___ | A215(198) | Skill Group Planning Sheet | 20 per teacher |
| ___ | A215(199) | Student Answer Sheet Medial Consonants and Silent Letters | 1 per student |
| ___ | A215(200) | Alternate - Divided Comprehensive Prescriptive Class Record | 2 per teacher as needed |
| ___ | A215 (210A,B,C, D,E) | Order Form | As needed by school coordinator |

CHULA VISTA CITY SCHOOL DISTRICT

# DIAGNOSIS AND PRESCRIPTION FOR READING AND MATHEMATICS

*Part I* *Reading Diagnosis*
➡ *Part II* *Reading Prescription*
*Part III* *Mathematics Diagnosis*
*Part IV* *Mathematics Prescription*

TM 009 981 (2 of 4)

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Chula Vista City School District
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CHULA VISTA CITY SCHOOL DISTRICT

# PART II

# READING PRESCRIPTION

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Judith L. Bauer, Member
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June 1977

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# CHULA VISTA PRESCRIPTIVE READING PROGRAM

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# OVERVIEW OF THE CHULA VISTA DIAGNOSTIC PRESCRIPTIVE READING PROGRAM

The Rosebank Title IV Part C Project, Individual Diagnosis and Prescription for a Total School, is a monitoring/management system for reading and mathematics designed to be used by teachers in their classrooms. The reading section of the program has been correlated with the California Assessment Program. It is composed of four parts:

I Reading Diagnosis
II Reading Prescription
III Mathematics Diagnosis
IV Mathematics Prescription

This is Part II of the program. It consists of prescriptive activities developed for the teacher to use in providing the instruction and reinforcement for reading skills.

The sections of this book contain:

I. An Introduction including suggestions for involving children in the reading process.

II. Prescriptive Activities correlated with the following skills which are assessed in the Diagnostic Component:

Visual and Auditory Discrimination
Comprehension
Structural Analysis and Study Locational Skills

The specific skill, appropriate grade levels and corresponding test numbers are indicated at the top of each page.

III. Activities for Application of Skills using easily accessible items such as: the telephone book, newspapers, menus, can labels, and catalogs.

IV. A series of instructional Games including instructions for making the games, rules for playing the games, and a listing of the skills for which each game is appropriate. There are also examples of gameboards.

V. Information about Learning Centers, including directions for making centers, and examples of pictures to be used.

VI. Activities which may be used by Parents to reinforce skills.

VII. A Cross Reference of the Comprehension Skills presented in the three basic series used in the Chula Vista City School District: Ginn and Company, *Ginn 720;* Holt, Rinehart and Winston, *The Holt Basic Reading System;* Macmillan Company, *Macmillan Series "r"*.

# INTRODUCTION

Children differ from each other in every possible ability related to reading, therefore, teachers find it necessary to provide a rich variety of learning activities adaptable to the needs of individual children. Some children learn to read rapidly and with ease; others learn slowly in small increments that require considerable effort. Every child should be able to recognize and take pride in achievements. Very little learning takes place academically or socially with students who feel themselves to be failures.

Teachers today use a variety of approaches and activities in developing reading skills. Children who are given enrichment experiences along with the reading of basic texts become better readers than children who just read textbooks with few supplementary language activities. Hence, teachers must bring to the classroom, and take children to, a wealth of supplementary materials including books of many kinds and on all subjects. Even for beginning readers, books should open a wide range of reading levels.

Activities should include opportunities for the teacher to:

- read to students every day. This would include picture books, poetry, short selections or a chapter a day from childrens' literature.
- assess strengths and indicate specific needs.
- provide daily oral language activities and creative writing experiences to develop concepts. This may include authoring books.
- provide basal reading activities with emphasis on comprehension and word attack strategies.
- provide time for Uninterrupted Sustained Silent Reading of library books, newspapers, magazines or supplementary texts. See page 213
- change skill groups to provide specific instruction in needed areas.
- provide follow-up activities to extend or reinforce reading skills such as: reading games, readers theater, puppetry, art projects, meeting with a cross-age tutor or working at a learning center.
- provide book sharing time in which students may encourage others to read a book or story they have enjoyed. The teacher may want to read a particularly exciting or relevant part of a book and thereby entice a child to take the book to read.

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- Use of the Cloze procedure (context clues) to encourage students to become risk-takers and to have confidence in their own judgments.

As the suggestions above are implemented, probably most children will not only learn HOW TO READ but also WILL READ. Teachers should provide students the opportunity to acquire the skills they need and then give them the opportunity to apply their skills using relevant materials.

Just as a teacher needs to use a variety of approaches and activities in teaching, students need to use a variety of strategies in reading. Readers need to use context in which emphasis is placed on the idea that there is meaning in reading. Reading should make sense. All students should be helped to see how mastery of the vocabulary development skills in structural analysis aids them in predicting the meaning process. Children also need to recognize the importance of phonetic clues but not become so intent on "sounding out" words that they neglect to read for meaning.

Because of requests from many teachers, and to facilitate the organization of test materials, there is a continuum of skills listed in the Diagnostic Book. However, it is meant to be merely a guide. Instruction must be based on the assessed needs of students and the sequence of skills should be adapted to meet the individual needs of those students.

# PRESCRIPTIVE ACTIVITIES

The following four sections of this book contain prescriptive activities which should be helpful in planning the skill development part of the reading program. Several activities are suggested for each skill tested.

Look at the prescriptive record sheets to determine children to be placed in each skill group. Then, list the names of the students needing the particular skill on the Skill Group Planning Sheet, page 223, Diagnostic Book. Refer to the appropriate pages in this book for activities and list them on the Skill Group Planning Sheet.

Skill groups should be flexible and change frequently as skills are learned. Groups are disbanded and new groups formed to concentrate on new skills. Students who are working in basal reading groups will also be included in varying flexible skill groups where other students are working. This gives students a chance to escape being always in one group (i.e., the low group).

The steps to follow in teaching reading skills are: pretest, teach, reinforce and posttest. Many times, students are pretested, and when identified as needing a skill, they are given practice materials to do, followed by a posttest. The crucial second step of teaching may be overlooked or may not be emphasized. Students need practice in applying the skill after it has been taught.

Teacher/pupil conferences may be held on a one-to-one basis or with a group of three to ten children depending upon the unique needs of the group. Having several children occupied with self-checking games or at reinforcement centers is an excellent way to free the teacher to instruct skill groups and hold conferences.

Word lists may be found in the following sections to help create more activities. Most of the activities may be used in many ways. The open-ended games may be made into work sheets. The work sheets may be made into games. Many formats have been introduced and the word lists should help the teacher adapt the activities in a variety of ways.

Old workbooks and many brochures from publishers make excellent sources of materials for game cards. An excellent commercial source of small pictures is Word Making Picture Stickers, Word Making Productions, Inc., P. O. Box 15038, Salt Lake City, Utah 84115.

# VISUAL AND AUDITORY DISCRIMINATION

Phonetic and structural analysis skills are tools to help students progress in their quest for comprehension, or getting meaning from the printed page, which is really reading.

The content of phonics should be taught just as quickly as children are ready to learn it. Once as much content is taught as will be useful, teachers should quickly move on to other aspects of reading instruction. These should include many opportunities for students to apply what they have learned.

If children are to attain maximum facility in using what has been taught in phonics, ample practice must be provided. This practice should be interesting and meaningful. Sounds should not be taught in isolation, but identified in words and phrases.

It is suggested that, as in everything else, children learn differently and that one sequence, unless it is broad and general in nature, is unlikely to be appropriate for all students. How much phonics? As little as is necessary for the learner to achieve increasing independence in the various decoding tasks that must be performed. In the final analysis, the optimum amount of phonics instruction for every student is the minimum needed to become an independent reader.

Provisions must be made for dialectical variations when working with phonics. It is wise to adapt the lessons to the students speech. If the students do not pronounce the "s" in plurals in the speech, do not insist that they do so when reading. If rhyming words given in an exercise do not rhyme in their speech, omit these words and substitute others.

Teachers must be aware of their own regional pronounciations.

Teachers will find that most of the activities in this section of the book may be easily adapted to provide practice in all other skills.

Visual and Auditory Discrimination
**Skill**: Matching

Grades: K, 1
Test: 1

**Materials**: *Ten 1" x 3" pieces of tagboard*

**Procedure**: *Have the student use the tagboard pieces to cover the letter pairs that do not match.*

| | |
|---|---|
| M W | p b |
| S Z | q q |
| A A | h k |
| C G | f f |
| K K | u v |
| O Q | a o |

Visual and Auditory Discrimination
**Skill**: Matching

Grades: K, 1
Test: 1

**Materials**: Thirty 3" x 5" cards, open-ended game boards, see pages 253-254. Dice or spinner and markers.

**Procedure**: Cut out the letter pairs along the heavy black lines, glue the rectangles onto 3" x 5" cards and laminate or cover with contact paper. See instructions for open-ended game, page 251. Instead of using an answer card, you may mark the back of the card with a ☺ or a ☹.

| | | |
|---|---|---|
| M W | u v | I T |
| S Z | a o | b b |
| A A | u n | p q |
| C G | R S | w w |
| K K | g p | N N |
| O Q | B p | M N |
| p b | h r | k k |
| q q | n r | C C |
| h k | J J | G G |
| f f | I I | Y Y |

Visual and Auditory Discrimination

Grades: K, 1
Test: 1

**Skill:** Matching

**Procedure:** *Have students cut out the letters at the bottom of the page and paste them under the matching letters at the top of the page.*

NAME: ______________________

| | | | |
|---|---|---|---|
| B | W | z | u |
| | | | |
| J | V | T | m |
| | | | |

| | | | |
|---|---|---|---|
| u | V | z | T |
| W | B | J | m |

Visual and Auditory Discrimination

Skill: Matching

Procedure: *Have student cut out letters at the bottom of the page and paste them under the matching letters.*

Grades: K, 1
Test: 1

NAME________________________________

| | | | | | | |
|---|---|---|---|---|---|---|
| B | J | W | D | b | L | u |
| | | | | | | |
| n | V | Q | s | k | I | M |
| | | | | | | |
| h | T | a | r | Y | z | O |
| | | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| a | B | b | D | J | h | I |
| k | r | L | M | n | O | Q |
| s | T | u | V | W | Y | z |

Visual and Auditory Discrimination

Grades: K, 1
Tests: 1

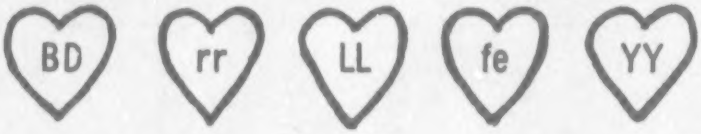
**Skill**: Matching

## HEARTS

**Number of Players**: Partners or three

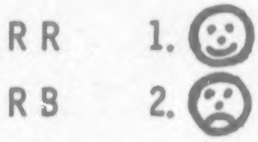
**Materials**: Twenty 5" x 5" cards

**Procedure**: Cut hearts from the cards. In each heart, put a pair of upper and lower case letters. In some, they should match; in some, they should be different. They should be laminated for durability. Do not mix upper and lower case letters on one heart.



If they match, place them in one pile. If they do not match, place them in another pile.

Each heart could be coded on the back so they would be self-correcting. For example:



Note: This can also be used as an open-ended game. See instructions for open-ended games on page 251. Put two letters on a card, and the student can identify them as the same or different.

Visual and Auditory Discrimination

Grades: K, 1
Tests: 2, 3

**Skill**: Upper and Lower Case Letters

## DRAW A LINE

**Number of Players**: Partners

**Materials**: Plastic marking pencil, one 9" x 12" or 12" x 18" piece of colored tagboard or posterboard.

**Procedure**: Divide board into three sections. In each section put 1/3 of the alphabet upper case letters on the left, and lower case letters on the right. Laminate the card. Have the student draw a line to match the letters.

SAMPLE

| | | | | | |
|---|---|---|---|---|---|
| A | b | J | l | S | t |
| B | g | K | m | T | v |
| C | a | L | j | U | s |
| D | e | M | n | V | u |
| E | c | N | k | W | y |
| F | d | O | q | X | z |
| G | h | P | o | Y | w |
| H | f | Q | p | Z | x |
| I | i | R | r | | |

Variation: This may also be used on a lace board. Punch a hole to the right of each upper case letter and a hole to the left of the lower case letter. Put a plastic or cloth lace into the hole by the upper case letter. Tie a knot at the end of the lace in the back of the board. The student then places the free end of the lace into the hole to match the lower case letter.

Visual and Auditory Discrimination

Grades: K, 1
Tests: 2, 3

Skill: Upper and Lower Case Letters

## ALPHABET SCRAMBLE

Number of Players: Individual or Partners

Materials: Fifty-two formica sample tiles; black felt-tipped marker; shoe box and label for storage; pegboard with fifty-two hooks. Formica samples can be found, already punched with holes, at a building materials store. Squares can also be made out of poster board.

Procedure: On twenty-six of the formica tiles, write the upper case letters of the alphabet. On the remaining tiles, write the lower case letters. Put both sets of tiles (upper and lower case letters) in a shoe box for storage and label it.

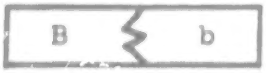
First, take all the tiles out of the box. Have the student separate the upper and lower case letters. Have the student match lower case letters with the upper case letters. A self-correcting coding system could be placed on the back of each pair of letters.

Note: If the child is just beginning, or having difficulty use only three upper and lower case letters to begin the activity. As children learn to match those letters of the alphabet, other tiles may be added.

## ALPHABET CENTER

Materials: Twenty-six 3" x 5" cards

Procedure: On each of twenty-six 3" x 5" cards, print a capital letter and its corresponding small letter. Draw a zig-zag line between the two letters. Make sure all the zig-zag lines on each card are different. Laminate the cards for durability. Cut through each card along the zig-zag line. Place the card pieces in a large envelope or in a box. The child fits the puzzle parts together, matching each capital letter with its corresponding small letter. Suggest to students that they place the matching letters near each other; then wait until they have them all matched before they check the zig-zag lines.



Note: Most students do not use the zig-zag line as a self-correcting device. They actually tend to put it together as a jigsaw puzzle. However, seeing the correct letters together makes this a useful learning device.

**Skill**: Upper and Lower Case Letters

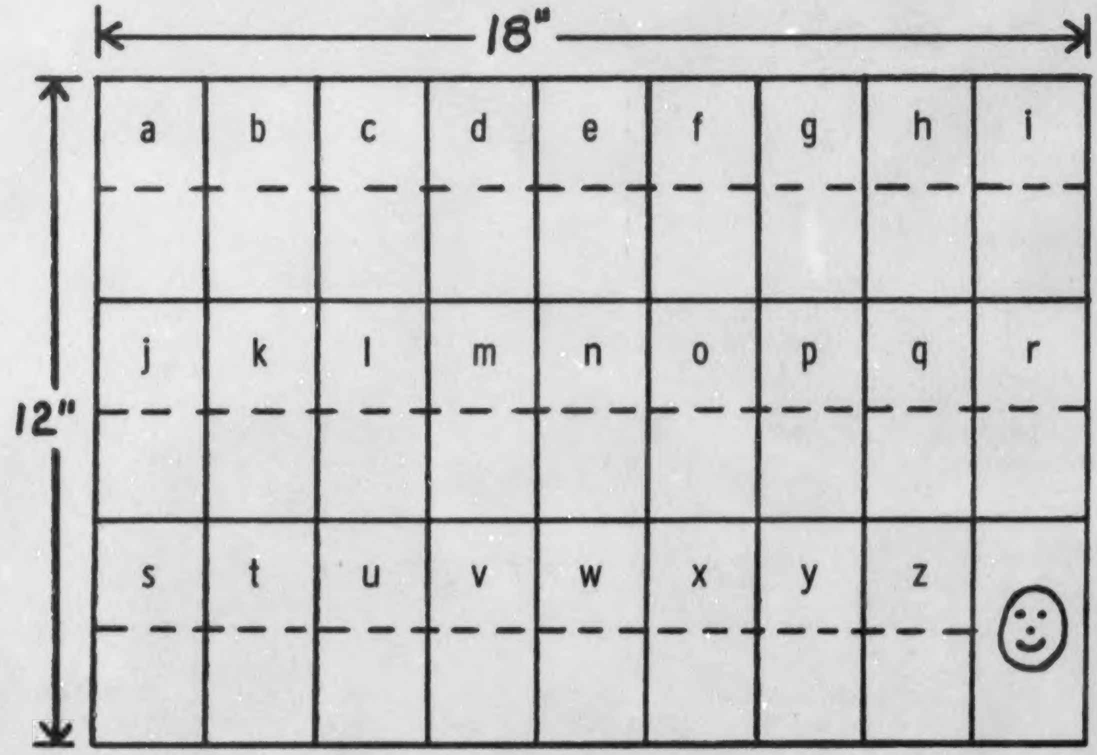
## ALPHABET MATCHING BOARDS

**Number of Players**: Up to 6

**Materials**: Three red 12" x 18" boards
Three blue 12" x 18" boards
Seventy-eight red 2" x 2" cards
Seventy-eight blue 2" x 2" cards

**Procedure**: Line the boards into 2" squares. Letter the blue boards with capital letters and the red boards with small letters. Letter the red squares to make three complete sets of small letters; letter the blue squares to make three complete sets of capital letters. Laminate the boards and the squares for durability. Package each alphabet set in an envelope; mark the envelope with a red or blue dot made with a felt-tip pen to show which kind of alphabet set is included. A code may be used for self-correcting.

The child draws one letter square from the envelope, says its name, and places it under its matching letter on the board. The child continues until each letter on the board has been matched. The child may begin by matching capital letters to capital letters (blue squares on blue board), then match small letters to small letters (red squares on red board), and finally match small letters to capital letters (red squares on blue board) or vice versa (blue squares on red board).



**Note**: This is an excellent activity for a reinforcement center.

Visual and Auditory Discrimination

Grades: K, 1, 2
Test: 4

**Skill**: Initial Consonants

## HOP-A-LETTER

**Number of Players**: Partners or Small Skill Group

**Materials**: Ten 8" squares of tagboard or oilcloth. Each piece has a large letter printed on it. Laminate for durability.

**Procedure**: Arrange the squares as stepping stones on the floor. Ask a child to step up to the first square, think of a word that begins with the sound for the letter. If the word is correct, the child hops over the square and continues on down the line, giving a word for the letter on the "stone" and hopping over the square until every "stone" has been attempted. If a child can't think of a word, he or she may pick a partner to hop along and give a helping hand when needed.

**Note**: This activity is appropriate for reinforcing the following skills:

Tests 2,3 Upper and lower case letters
4 Initial consonants
5 Rhyming
8 Final consonants
9 2-Letter initial clusters
11 Long and short vowels
12 Consonant digraphs
28 2-Letter final clusters
29 3-Letter initial clusters
17 Synonyms
18 Antonyms
19 Contractions

## LETTER TOSS

Grades: All
Test: 4

**Number of Players**: Small Skill Group

**Materials**: One bean bag.

**Procedure**: Get everybody in a circle. Teacher too! The teacher begins with a bean bag, calls out a letter, then tosses the bean bag to a child who must quickly call out a word that begins with the letter the teacher said. Ten seconds is the time limit. Then - whether the child gets a word or not - he or she says the same letter, tosses the bean bag to another child, and so on, right around the circle. When everyone has had a turn, the teacher calls out another letter, and the game goes on.

When children are proficient at this skill, have them change the letter whenever they wish.

**Note**: This activity is appropriate for reinforcing the following skills:

Tests 5 Rhyming
8 Final consonants
9 2-Letter initial clusters
11 Long and short vowels
12 Consonant digraphs
28 2-Letter final clusters
29 3-Letter initial clusters
31 Other vowels
13 Alphabetizing
15,40 Context clues
17 Synonyms
18 Antonyms
19 Contractions
Relationship

**Skill**: Initial Consonants

Grades: 1, 2
Test: 4

## ROLL A WORD, OR WE JUST KEEP ROLLING ALONG

**Number of Players**: Small skill group

**Materials**: One 12" ball

**Procedure**: Have children sit no more than five feet apart with one ball. Ask one child to begin by saying a letter and immediately rolling the ball to the next child. Then, the second child must say a real word that begins with that sound before the ball reaches him or her. In turn, the second child says another letter and the process continues. You may want to keep score and announce the winner.

This game is appropriate for reinforcing the following skills:

Tests 5 Rhyming
9 2-letter initial clusters
11 Long and short vowels
12 Consonant digraphs
17 Synonyms
18 Antonyms
19 Contractions

Visual and Auditory Discrimination

Grades: All
Test: 5

Skill: Rhyming

## RHYMING WORD LIST

skate - plate - gate
bear - pear - chair - tear
coat - goat - boat
shoe - blue - two
cake - rake - snake - bake
cat - hat - bat - fat
ten - hen - men - pen
block - sock - lock - dock
pan - can - man - fan
box - fox - blocks - socks
pail - mail - tail - snail - sail
hour - flour - sour
fire - higher - tire
green - jean - screen
dark - park - bark

fun - run - sun
up - cup - pup
hot - pot - cot
top - mop - pop - stop
wet - get - net
rope - soap - hope
jump - bump - stump
night - bright - light - tight - fight
nest - best - rest
tree - three - he - she - me
dog - log - fog
dish - fish - wish
door - more - floor
house - mouse - blouse

**Skill**: Rhyming

## RHYMING

**Number of Players**: 2 to 6

**Materials**: A set of forty 3" x 5" cards with rhyming words or rhyming pictures. Laminate or cover with contact paper.

**Procedure**: A good resource for pictures is a readiness or preprimer workbook. Cards are shuffled, dealt four to each player, and the remainder placed face down on the table. The first card is turned face up. Players may choose the turned-up card or draw one from the pile. They may keep the card or discard it, as in the game of Rummy. The winner is the one who has the most matching pairs.

**Skill**: Rhyming

## SAY A RHYME

**Number of Players**: Small skill group

**Materials**: Thirty 5" x 8" cards, laminate for durability

**Procedure**: Write rhyming words on cards. The student chooses a card and makes up a rhyme using the words on the card that was drawn.

For example:

| | |
|---|---|
| bell<br>well | I dropped the bell<br>Down the well. |
| hand<br>sand | I put my hand<br>In the sand. |

Visual and Auditory Discrimination
Grades: K, 1, 2
Test: 5

**Skill**: Rhyming

## RHYMING GAME

**Number of Players**: Individual or small skill group

**Materials**: Rhymes

**Procedure**: *Say the following rhyme:*

Look up here at me,
What is this I see?

*Say each rhyme and have the children fill in the blank.*

My shoes are new,
My socks are ______ (*blue*)

My name is Ray,
I like to ______ (*play*)

My jeans are red,
They match my ______ (*sled*)

Little Bo-Peep lost ______________.
Three Little Kittens lost ________.
Jack be nimble, Jack be quick, Jack jumped over the ______________.
Jack and Jill went up the ________.

MORE JINGLES

Little Roy
Likes his ______ (*toy*)

One, two, three
Come play with ______ (*me*)

The frisky fox
Jumped on the ______ (*box*)

See the frog
Jump the ______ (*log*)

Mother said,
"Get to ______" (*bed*)

The fire got
Very ______ (*hot*)

More Jingles (Cont.)

Put the nail
In the ______ (pail)

Tick, tock,
Went the ______ (clock)

How I wish
I had a ______ (fish)

See the men
Chase the ______ (hen)

The bird will rest
In the ______ (nest)

Jimmy's boat
Can really ______ (float)

Give the book
To the ______ (cook)

Mr. Jones
Ate two ______ (cones)

She has dirt
On her ______ (skirt)

When it is night
Turn on the ______ (light)

He has pie
On his ______ (tie)

See the chair
Over ______ (there)

It is time
To make a ______ (rhyme)

I smelled the rose
With my ______ (nose)

I saw a clown
Jump up and ______ (down)

A great big fly
Went buzzing ______ (by)

He dropped his key
By the ______ (tree)

Uncle Bill
Climbed a ______ (hill)

We drove far
In our ______ (car)

Here's the money
For the ______ (honey)

Little Joe
Hurt his ______ (toe)

Little pup
Broke my ______ (cup)

Who put thread
On my ______? (bed)

Note: The jingles may be written on the board so that children may read, as well as, hear them.

**Skill**: Rhyming

## RHYMING ANSWERS

**Number of Players**: Whole class or small skill group.

**Materials**: Strips of paper, brightly decorated bag.

**Procedure**: At any time the teacher and the children may write questions on single strips of paper and drop them into a gaily decorated paper bag attached to a bottom corner of a bulletin board.

When it is time to play, choose a question from the bag and share it with the class. Call on someone who has thought of a rhyming answer. For example: "Why did it rain so hard today?" "So we couldn't go outside to play."; "Where are you going to put the bat?" "Upon the great big hat."; "Where did you find the scissors and glue?" "Under the desk in Jason's shoe."

## RHYME TIME

**Procedure**: Glue one picture on each card so that you have twenty pairs of rhyming cards. Use an open-ended gameboard, pages 253 - 268. See instructions for open-ended games, page 251.

## RHYMING DOMINOES

**Procedure**: See instructions for Domino Game, page 242. Use one picture on each 2" x 2" square. Be sure that rhyming pairs are not put on the same card.

200

Visual and Auditory Discrimination

Grades: All
Test: 8

**Skill**: Final Consonants

## WORD LISTS OF FINAL CONSONANTS

| (b) | (d) | (f) | (g) |
|---|---|---|---|
| hub | bed | elf | dog |
| cob | food | leaf | fog |
| tab | glad | roof | log |
| web | toad | beef | pig |
| jab | red | loaf | fig |

| (k,c) | (l) | (m) | (n) |
|---|---|---|---|
| silk | pail | dim | corn |
| steak | deal | gum | down |
| wink | girl | swim | moon |
| park | heal | farm | fan |
| week | jail | jam | gun |

| (p) | (r) | (t) | (x) |
|---|---|---|---|
| cap | doctor | hat | box |
| chip | bear | coat | ax |
| map | fur | cat | fox |
| jeep | door | eat | tax |
| nap | your | bat | wax |

Visual and Auditory Discrimination

Grades: 1, 2
Test: 8

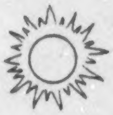
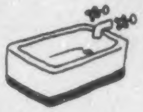
**Skill**: Final Consonants

## FIND THE FINISH

**Number of Players**: Small skill group

**Materials**: Work sheet such as illustrated below:

**Procedure**: Distribute charts like the one shown in the illustration to the children. This reviews final p, d, n, t, g, b, and /ks/x.

| | |  | | |  | |
|---|---|---|---|---|---|---|
| | | | | | | |

Have the picture at the top of each column identified and tell the children to listen carefully to the final sound for each object. Write known words on the board in random order. Have the children read each word to themselves, listen carefully to the final sound, and write the word in the appropriate column. Use these words in mixed up order:

| | | | | | | |
|---|---|---|---|---|---|---|
| up | said | green | at | big | Bob | box |
| pup | did | ran | wait | dog | cub | tax |
| map | red | fan | it | dig | tub | ox |
| tap | read | woman | hat | leg | job | fox |
| lap | | seen | sit | wig | tab | |
| cap | | can | what | | web | |
| | | mailman | | | | |

Note: This activity is excellent for use in a reinforcement center. Make a 12" x 18" board similar to the one above. Laminate or cover with clear contact. Make a task card with instructions. Print the words on small cards. Students put them in the proper column. They can be self-correcting by a coding system on the back of the cards.

Grades: K, 1, 2
Test: 8

Skill: Final consonants

## SURPRISE BAG

Number of Players: Small skill group

Materials: One large bag; many small objects.

Procedure: Place in a large bag (an old purse is excellent) several small objects, such as a button, pencil, ruler, shell, spool, pen, hat, eraser, etc.

Have the children take turns reaching into the bag, removing an object, naming it and identifying the letter that represents its final sound.

Note: This activity is appropriate for reinforcing the following skills:

Tests 4 Initial consonants
5 Rhyming
9 2-letter initial clusters
11 Long and short vowels

Grades: 1, 2
Test: 8

Skill: Final Consonants

## FINAL FROLIC

Number of Players: 2 or 3 students, or 2 or 3 teams

Procedure: The first player says a short word with a single consonant ending sound. The next player must also say a word that ends with a single consonant sound, but that word must begin with the sound that ended the previous player's word. This pattern continues. Each player or team receives a point for saying a correct word.

The winner is the first player or team who gets 10 points.

EXAMPLE: hat, ten, nap, pig

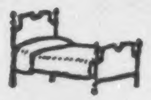
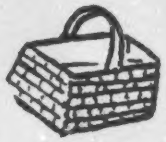
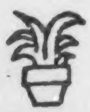
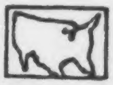
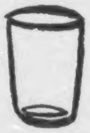
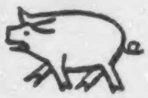
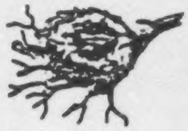
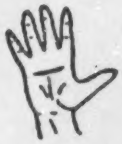
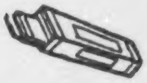
Visual and Auditory Discrimination

Grades: 1, 2
Test: 8

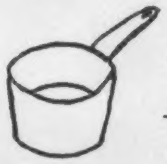
**Skill**: Final Consonants

NAME ______________________________

*Have the student circle the letter that represents the final sound of the picture word.*

| | | |
|---|---|---|
| <br>n d b | <br>d t k | <br>d t l |
| <br>f g p | <br>s p k | <br>q p g |
| <br>l t f | <br>p j d | <br>m n o |

*Have the student write the letter that represents the final sound of the picture word.*



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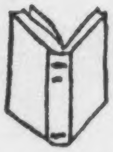

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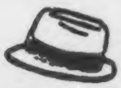

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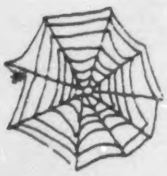

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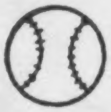

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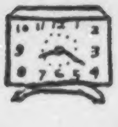


______
______
______

Visual and Auditory Discrimination
Skill: 2-Letter Initial Clusters

Grades: All
Test: 9

## Word Lists 2-Letter Initial Clusters (Blends)

### bl

- block
- blue
- black
- blond
- blouse
- blank
- blanket
- blast

### br

- brown
- brick
- brave
- brain
- bridge
- broom
- braid
- brake
- brand
- brass
- bread
- breeze
- bride

### cl

- clay
- clown
- clam
- clap
- clarinet
- class
- cliff
- climb
- clock
- clothes
- cloud
- club

### cr

- crust
- crowd
- crab
- crash
- crawl
- crayon
- creek
- crib
- cricket
- crocodile
- crow

### dr

- dragon
- draw
- dream
- dress
- drink
- drip
- drive
- drop
- drum
- dry

### fl

- flag
- flame
- flea
- flight
- float
- flood
- floss
- flour
- flower
- fluid
- flute
- fly

### fr

- frame
- free
- freeze
- fresh
- friend
- frog
- fruit
- Friday

### gl

- glass
- glove
- glue
- glow
- glide
- glitter
- glory
- glacier

## 2-Letter Initial Clusters (Cont.)

### gr

grade
grain
gram
grand
grape
graph
gray
grill
grin
grind
great
grocery

### pl

plaid
plain
plan
plane
planet
plank
plant
plate
play
playground
playhouse
plum

### pr

prince
princess
print
prize
prune
pretty
press
proud

### sc/sk

scale
scar
scarf
scooter
scout
skate
skeleton
ski
skin
skirt
skunk
skull
sky
skip

### sl

sleep
slow
slipper
sled
sleeve
sliver
sling
slide

### sm

smoke
smell
smile
small
smooth
smart
smash
smog

### sn

snack
snail
snake
snap
snow
sneeze
sneak
sniff
snip
snore

### sp

space
spell
spin
spear
spider
speak
spice
spoon
sport
spur

### tr

track
train
trail
trap
tray
trick
trace
tractor

### tw

twenty
twin
twine
twelve
twice
twig
twist
tweezer

Visual and Auditory Discrimination

Grades: All
Test: 9

**Skill**: 2-Letter Initial Clusters

## TOSS-A-BLEND

**Number of Players**: 2 or 3

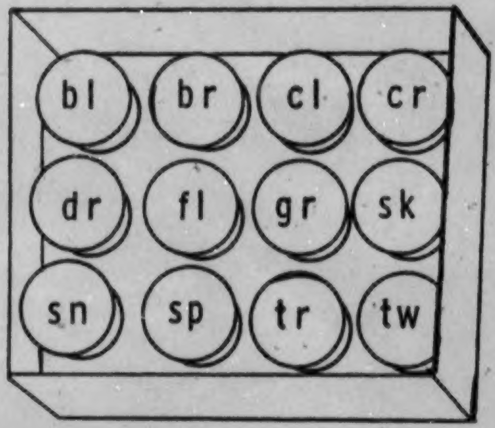
**Materials**: Shallow box, twelve strips of 1" x 5" paper, (or plastic covers such as used on hair spray containers), 3 paper clips to toss.

**Procedure**: Decorate a box. Staple the ends of the strips of colored paper to form small circles that can be placed in the shallow box. Paste these circles so they will not move (or glue plastic lids in box). In the center of each circle, place a small tagboard disc containing the clusters.

Two or three players throw in turn. Players must sit two feet or more away from the game. The first player tosses the clip and says a word that begins with the blend in the circle where the clip lands. If the word is correct the player gets a point. Words cannot be repeated for points. If a clip lands in between the circles, the player *loses* a turn. The first player to get 10 points wins.

**Note**: This activity is appropriate for reinforcing the following skills:

| | | |
|---|---|---|
| Tests | 2, 3 | Upper and lower case alphabet |
| | 4 | Initial consonants |
| | 5 | Rhyming |
| | 8 | Final consonants |
| | 9 | 2-Letter initial clusters |
| | 11 | Long and short vowels |
| | 12 | Consonant digraphs |
| | 28 | 2-Letter final clusters |
| | 29 | 3-Letter initial clusters |
| | 31 | Other vowels |
| | 14 | Compound words |
| | 17,33 | Synonyms |
| | 18,34 | Antonyms |
| | 19,39 | Contractions |
| | 20,38 | Syllables |
| | 23,35 | Base words |
| | 36 | Prefixes |
| | 37 | Suffixes |



Visual and Auditory Discrimination

Grades: All
Test: 9

**Skill**: 2-Letter Initial Clusters

## STEAL THE WORD

**Number of Players**: Small skill group.

**Materials**: Ten or fifteen large 8½" x 11" squares on which have been written 2-letter initial clusters (blends).

**Procedure**: Place the large word squares on the floor between the two teams. Children on each team are given numbers starting with 1. A number is called together with a word. A child from each team attempts to retrieve the cluster called from the middle of the floor. The winner gets a point. The teacher should call *"clock-2"* rather than *"2-clock"* so all children try to find the word with their eyes.

Note: This activity is appropriate for reinforcing the following skills:

Tests 4 Initial consonants
12 Consonant digraphs
29 3-letter initial clusters

**Skill**: 2 or 3-Letter Initial Clusters

Grades: All
Tests: 9, 29

## WORD CLUSTER-ING

**Number of Players**: Small skill group.

**Procedure**: 1. On the chalkboard, write several consonant clusters such as "st, bl, str, fl".

2. Write *one* phonogram (or word family) on the chalkboard such as "ack, op, an, unk, ot, ash, im, ock, ay".

3. Children are to form as many words as they can by uniting the consonant blends with the phonogram.

4. The child with the largest number of correct words is the winner. It may be necessary to subtract incorrect answers from correct ones to discourage guessing.

Visual and Auditory Discrimination

Grades: All
Test: 9

**Skill**: 2-Letter Initial Clusters

## CAN YOU MAKE A WORD

**Number of Players**: 3 to 6

**Materials**: Six 9" x 12" Game cards with four blends as illustrated, fifty phonograms printed on 3" x 5" cards.

**Procedure**: Each child draws a card in turn. The player puts the card on any open space that will form a word when added to the blend. Each child takes one card in turn and the game continues until someone has completed a row as in Bingo. There may be no repetitions in a single row. A winning card is illustrated below.

| pl | cl | gr | br |
|---|---|---|---|
| an | ay | own | own |
| ay | own | ay | ow |
|  | ap | een |  |
|  |  | ab |  |
|  |  | ow |  |

Note: For beginning players it is suggested that all participants have game cards with the same 4 blends. As children develop their skill the players may use game cards with different sets of 4 blends. It becomes increasingly difficult as not all drawing cards will fit on each game card and the player must discriminate between actual words and nonsense syllables. If a player cannot use the card, it is placed at the bottom of the pile.

Visual and Auditory Discrimination

Grades: All
Test: 11

Skill: Long and Short Vowels

## SHORT VOWEL "A" (apple)

act
add
am
an
and
ant
as
ask
at
ax
bad
back
bag
band
bank
bat
black
bran
cab
camp
can
cap
cash
cat
catch
champ
clam
clap
class
crab
crack
crash
dad
damp
dash
fan
fast
fat
flag
flash
flat
gap
glad
glass
grass
had
ham
hand
hang
has
hat
jam
lack
lad
lag
lamp
land
lap
last
mad
man
map
match
nap
pack
pad
pan
pass
pat
plan
plant
quack
rag
ran
rang
rat
sack
sad
sand
sang
sank
sat
scratch
slant
slap
smack
snack
snap
stack
stamp
stand
strap
swam
tack
tag
tan
tank
tap
tax
that
track
trap
van
vat
wag
wax
yam

## SHORT VOWEL "E" (eskimo)

bed
beg
bell
belt
bend
bent
best
bet
cent
check
chess
chest
deck
den
dent
dress
echo
elf
elk
end
ever
fed
fell
gem
get
help
hem
hen
jet
keg
led
leg
lend
less
let
melt
men
mend
met
neck
nest
net
next
peg
pen
pep
pet
press
red
rent
rest
set
sell
send
sent
shell
sled
slept
smell
spell
spend
spent
step
swell
swept
tell
ten
tent
test
them
then
web
wed
well
went
west
wet
when
yell
yes
yet

210

## SHORT VOWEL "I" (igloo)

bib
big
bill
bin
bit
chick
chill
chin
chip
clip
crib
did
dig
dim
dip
drip
fig
fill
fin
fish
fit
fix
grid
grin
hid
hill
him
hip
his
hit
if
ill
in
inch
inn
is
it
itch
jig
kick
kid
knit
lid
lip
lit
milk
mill
miss
mitt
mix
nip
pen
pick
pig
pin
rib
rid
rim
rip
shin
ship
sip
sit
six
skid
skip
slid
spin
strip
swim
thin
this
tin
tip
trip
twin
whim
wig
will
win
wit
with
zip

## SHORT VOWEL "O" (octopus)

block
blond
boss
box
clock
cob
collar
cot
crop
dog
doll
dollar
dot
drop
fog
fond
fox
from
got
hop
hot
job
jog
knob
lock
log
lot
mob
mop
nod
not
odd
of
on
plot
pond
rob
robin
rock
rod
role
shock
shop
shot
sob
sock
spot
stop
top
tot
trot

## SHORT VOWEL "U" (umbrella)

bluff
brush
bud
bug
bump
bun
bunch
bus
but
chum
club
crush
crust
cub
cup
cut
drum
duck
dug
dust
fun
gull
gum
gun
hub
hug
hum
hump
hunt
hush
hut
jug
jump
junk
just
lump
lunch
lung
much
mud
mug
must
nut
plug
plum
punch
pup
rub
rug
run
rush
rust
scrub
shrub
shut
skull
slump
struck
stuff
sub
such
sum
sung
truck
trunk
trust
tub
tug
uncle
under
up
us

# LONG VOWELS

## LONG VOWEL "A" (apron)

age
amaze
ape
ate
bake
base
blade
brake
brave
cage
cake
came
cane
cape
case
cave
chase
date
daze
drape
face
fake
flame
frame
game
gate
gave
glaze
grape
lace
lake
lane
late
made
make
male
name
page
pane
place
plate
race
sale
same
save
scale
scrape
shade
shake
shame
shape
shave
skate
snake
space
stage
state
take
tame
tape
trace
trade
wake
wave
whale

See page 54 for more Long "A" sounds (ai, ay, ei)

## LONG VOWEL "E" (eagle)

complete
extreme
impede
Japanese
Pete
scene
scheme
serene
stampede
Steve
supreme
these

See page 55 for more Long "E" sounds (ee, ea, ie, ey, ei)

## LONG VOWEL "I" (ice)

bike
bite
bride
crime
dime
dine
dive
drive
file
fine
fire
five
gripe
hide
hike
hire
hive
ice
invite
kite
knife
life
like
lime
line
mice
mile
mine
nice
nine
pile
pine
pipe
price
rice
ride
ripe
rise
shine
side
slice
slide
smile
spike
spine
strike
stripe
swipe
tile
time
tire
twice
twine
while
white
wide
wife
wine
wipe
wire
write

See page 56 for more Long "I" sounds (ie, ey, ai)

## LONG VOWEL "O" (oval)

bone
broke
choke
chose
close
code
coke
cone
dove
drove
globe
hole
home
hope
hose
joke
mole
nose
note
phone
poke
pole
robe
rode
rope
rose
smoke
spoke
stole
stone
stove
those
tone
vote
whole
woke
wrote
zone

See page 56 for more Long "O" sounds (ow, oa, ou, oe)

## LONG VOWEL "U" (ukulele)

abuse
amuse
cube
cute
fuse
huge
mule
music
refuge
unicorn
uniform
use

## LONG VOWEL "Y"

### long e

angry
baby
carry
empty
factory
foggy
funny
grassy
happy
hurry
many
only
rainy
ready
rocky
shiny
silly
softly
suddenly
sunny
tiny
twenty
very
victory
windy

### long i

by
buy
cry
dry
fly
fry
guy
my
pry
spy
try
why

Visual and Auditory Discrimination

Grades: All
Test : 11

**Skill**: Long Vowels

## VOWEL — e

**Number of Players**: Partners or teacher and small group

**Materials**: 3" x 12" or 3" x 8" pieces of tagboard. Sentence strips are ideal.

**Procedure**: The teacher should fold back a piece of the right hand edge of the strip. Write the short vowel word on the sentence strip so that the writing is not covered. Then write the "e" on the folded piece.

For example:

Show the student(s) the short vowel word and have them say it - (bit). Then, fold the "e" over so the student(s) see the new word - (bite) and have them read it. Let them discover the generalization first. Then they may use the cards for practice with a partner.

### WORD LIST THAT FITS PATTERN

bad/bade
cod/code
dim/dime
fir/fire
hug/huge
mar/mare
pet/Pete
rat/rate
sag/sage
sit/site
strip/stripe
twin/twine
bit/bite
cop/cope

fad/fade
gal/gale
kit/kite
not/note
plan/plane
rid/ride
Sam/same
slid/slide
tam/tame
us/use
can/cane
cub/cube
glob/globe
lob/lobe

pal/pale
prim/prime
rob/robe
sham/shame
slim/slime
Tim/time
van/vane
cap/cape
cur/cure
fat/fate
hat/hate
mad/made
pan/pane
quit/quite

rod/rode
Sid/side
snip/snipe
ton/tone
win/wine
cut/cute
fin/fine
hid/hide
man/mane
past/paste
rag/rage
rot/rote
spin/spine
tub/tube

Visual and Auditory Discrimination

Grades: 1, 2, 3
Test: 11

**Skill**: Short Vowels

## WORD HUNT

**Number of Players**: Small skill group

**Materials**: Classroom or playground; twenty 8½" x 11" cards containing pairs of words with short vowel sounds.

**Procedure**: Place pairs of cards in an irregular pattern around a small area. In each group, the top word must be the bottom word of a different pair.

Children start one at a time and each child starts with a different "top" word. The child looks at the word, says it, then runs and finds the same word as a "bottom" word in another pile. The student must then look at the top word in that pile, say it, and go find it as a bottom word in a third pile. This continues until the student finally returns to the top word where he or she started.

**Variations**:
1. Individual student can be timed through the word course.
2. Pairs of children can go at once, each trying to catch the next child.
3. Words can be increasingly difficult.
4. Children can be asked to make up a sentence after finding each word.

Examples of word card pairs:

| Top Card | Bottom Card |
|---|---|
| mat | tag |
| tag | truck |
| truck | duck |
| duck | mat |

Visual and Auditory Discrimination

Grades: All
Test: 11

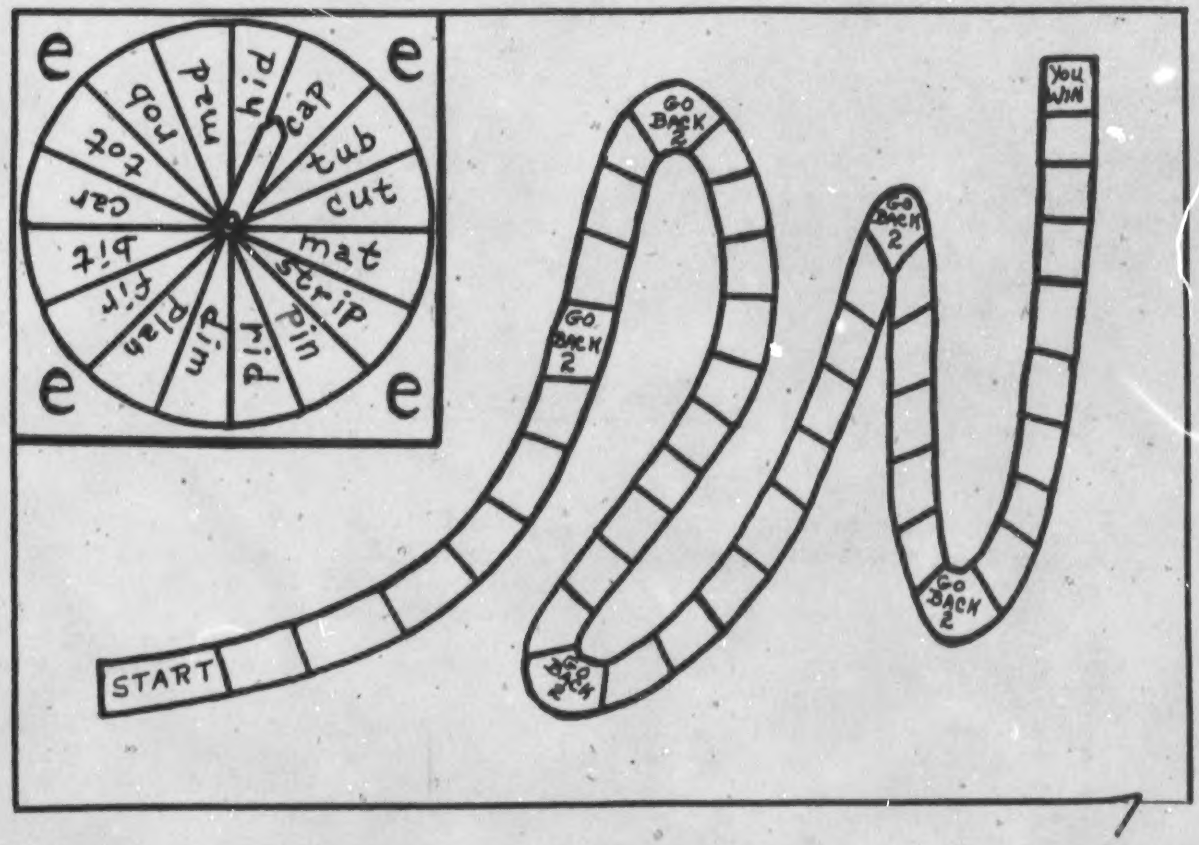
Skill: Long and Short Vowels

## SAY THE WORD

Number of Players: 2 or 3

Materials: Gameboard with attached spinner as illustrated below, and markers.

Procedure: A player spins the arrow and makes a sentence with the word as it appears on the gameboard. Then, the player must make another sentence with the word after the silent "e" is added. If the player is able to complete the task, he/she moves ahead one space. If the player is not able to complete the task, the player loses a turn.



**Skill**: Long and Short Vowels

## SHORT STACK

**Number of Players**: 1 or partners

**Materials**: Fifty 2" x 4" word cards, one 5" x 8" task card

**Procedure**: Use five words from each list of long and short vowels, pages 31 - 34. Make a Task Card which reads:

### TASK CARD

1. Take all the cards from the envelope.
2. Sort the cards so that all the short vowels are together, and all the long vowels are together.
3. Sort all the like sounds into stacks of words such as: words with a short "a" sound, words with a short "e" sound, words with a short "i" sound, words with a long "a" sound, words with a long "e" sound, etc.

## THE DUCK GOES TO THE BARN

**Number of Players**: 2 to 4

**Materials**: A game board with colored squares and a duck drawn at the bottom of the board and a barn drawn at the top, twenty 3" x 5" cards with vowel words on them. Use words which can be pictured on the back of the cards for self-checking. Die or spinner and markers.

**Procedure**: The object of the game is to be the first one to get your pawn or duck up to the barn. Each child throws the die and moves the marker the number of squares and then takes a card. The cards are placed with just the picture showing. The child says what short vowel is in the picture word. On the under side of the card, the word is shown with the correct marking for the short vowel. Therefore, by turning the card over, the child can check to see if the word is correct. If so, the player stays on the square; if not, the player must move back to the place he or she was before the move.

Visual and Auditory Discrimination

Grades: All
Test: 11

**Skill**: Long and Short Vowels

## WORD CHANGE

**Number of Players**: Small skill group or whole class

**Materials**: List of words such as: led, cat, man, bat.

**Procedure**: 1. Write a simple one-vowel word on the chalkboard.

2. Children are to write as many words as they can using other vowels in place of the original one.

3. The child with the largest number of possible words, correctly written, is the winner.

Sample: led (*lid, lad, load, lead, loud, lied, etc.*)

## HANDS UP AND HANDS DOWN

Grades: 1, 2
Test: 11

**Skill**: Long and Short Vowels

**Number of Players**: Small skill group or whole class

**Materials**: List of words with short and long vowel sounds.

**Procedure**: 1. Children stand with arms folded across chests.

2. Say a word with a long or short vowel sound in it.

3. If the children think they hear a short vowel sound, they drop their arms straight down If they think they hear a long vowel sound, they raise their arms above their heads.

4. Children who do not give the correct response must sit down. When they sit down they continue to play. As they make the correct response they stand up again.

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Visual and Auditory Discrimination

Grades: All
Test: 12

**Skill**: Consonant Digraphs

## WORD LIST

### CH - initial

chain
chair
chalk
champ
chance
change
chap
charcoal
charge

charity
charm
chart
chase
cheap
check
cheer
cheese
cherry

chest
chestnut
chew
check
chief
child
children
chill
chimney

chin
chip
chipmunk
chocolate
choice
choose
chop
chuckle
church

### SH - initial

shade
shadow
shag
shake
shall
shallow
shame
shape

share
shark
sharp
shave
shawl
she
shed
sheet

sheep
shell
shelf
sheriff
shield
shine
ship
shirt

shoe
shook
shot
shout
shovel
show
shut

### TH - initial

than
thank
that
the
theater
theft
their
them
theme
then
theory

there
thermometer
thermos
these
they
thick
thief
thimble
thin
thing
think

third
thirsty
thirteen
thirty
this
thorn
those
though
thought
thousand
through

thumb
thunder
Thursday

219

Visual and Auditory Discrimination

Grades: All
Test: 12

**Skill**: Consonant Digraphs

## WH - initial

whack
whale
wharf
what
wheat
wheel
wheelbarrow
wheelchair
when
where
whether
which
whiff
while
whimper
whine
whip
whirl
whisker
whisper
whistle
white
why

## PH - initial

phantom
pharmacy
phase
pheasant
phenomenon
phobia
phone
phoneme
phonics
phonograph
phony
phosphate
photograph
phrase
physical
physician
physics

## CH - final

arch
beach
bench
birch
butterscotch
catch
church
clench
clutch
coach
crunch
crutch
each
gulch
hopscotch
march
match
much
peach
perch
pinch
ranch
reach
reproach
rich
sandwich
speech
starch
stitch
such
teach
thatch
touch
watch
witch
wrench

## SH - final

ambush
brush
bush
crash
crush
dish
fish
fresh
hush
marsh
mush
radish
splash
swish
trash
wash
wish

Visual and Auditory Discrimination

Grades: All
Test: 12

**Skill**: Consonant Digraphs

## TH - final

bath
breath
cloth
death
earth
fifth
growth
length
month
mouth
south
strength
teeth
tooth
wealth
with
wreath

## PH - final

paragraph
phonograph
photograph
triumph

## GH - final

cough
enough
laugh
rough
tough

## NG - final

along
bang
bring
cling
fang
flung
gang
gong
hung
king
long
lung
prong
ring
sing
song
spring
string
stung
swing
thing
throng
wing

## CH - medial

archery
enchanted
merchant
orchard
pitcher
rancher
teacher

## PH - medial

alphabet
atmosphere
cellophane
elephant
hemisphere
microphone
philosopher
phosphate
prophet
saxophone
sulphur
symphony
telephone

Visual and Auditory Discrimination

Grades: All
Test: 12

**Skill**: Consonant Digraphs

### CH - as in ache (not tested)

### CH - initial

character
chemical
chemistry
chorus
Christmas
chrome
chromium

### CH - medial

ache
anchor
echo
mechanic
orchestra
orchid
school
scholar
schooner
technician

### CH - final

stomach

222

**Visual and Auditory Discrimination** Grade: All
Test: 12

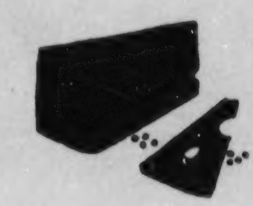
**Skill**: Initial Consonant Digraphs

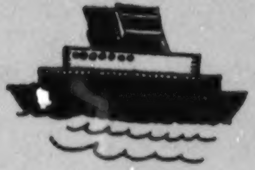
## INITIAL CONSONANT DIGRAPH PICTURES

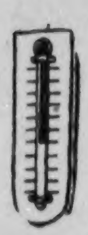
**Number of Players**: 3 or 4

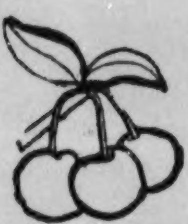
**Materials**: One open-ended gameboard, see pages 253 - 268.
Twenty 3" x 5" cards, dice or spinner, and markers.
One 5" x 8" answer card.

**Procedure**: See instructions for open-ended games, page 251. Make a copy of the following pictures and mount them on game cards.









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Visual and Auditory Discrimination

**Skill**: Final Consonant Digraphs

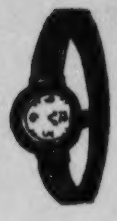
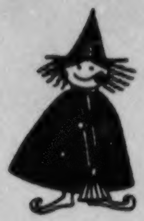
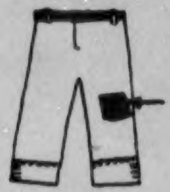
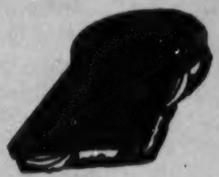
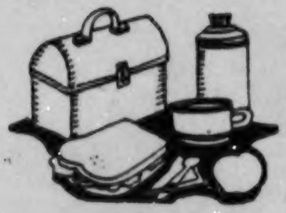
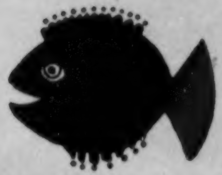
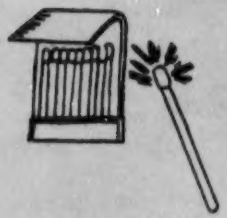
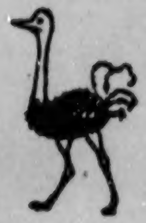
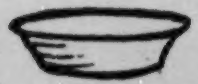
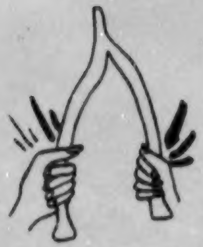
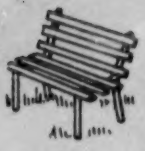
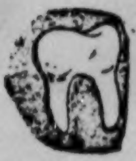
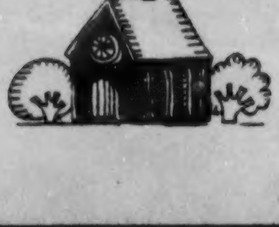
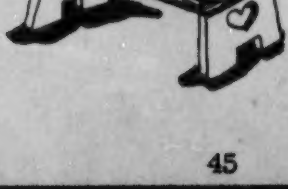
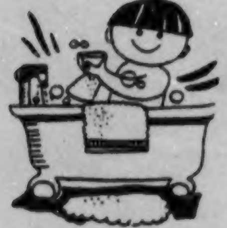
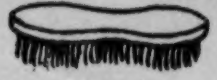
Grades: All
Test: 12

## FINAL CONSONANT DIGRAPH PICTURES

**Number of Players**: 3 or 4

**Materials**: One open-ended gameboard, see pages 253 - 268.
Sixteen 3" x 5" cards, dice or spinner, and markers.
One 5" x 8" answer card.

**Procedure**: See instructions for open-ended games, page 251.
Make a copy of the following pictures and mount them on game cards.

Visual and Auditory Discrimination

**Skill**: Consonant Digraph - Ph

Grades: 4, 5, 6
Tests: 12

## PHUN

**Number of Players**: 2

**Materials**: Colored tagboard for game board, one die or spinner and markers. Laminate for durability.

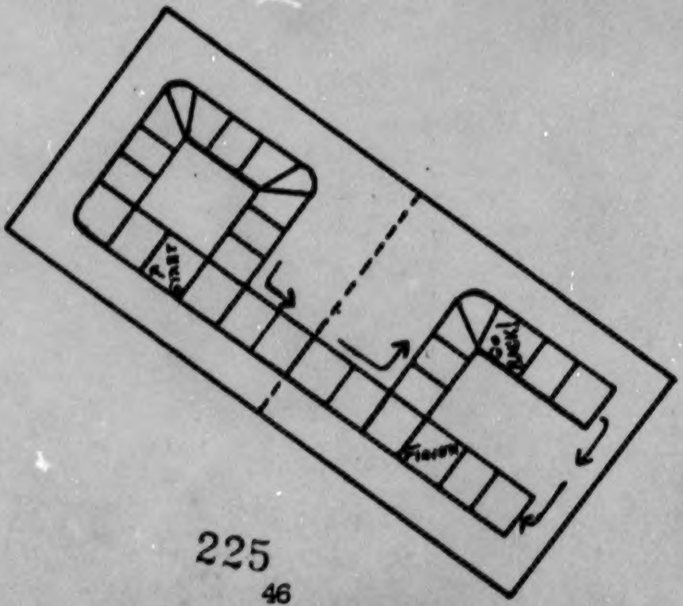
**Procedure**: Draw a game path in shape of a large ph. See illustration. Decorate. Divide the path into small squares and write a word in each square. from the list below. Write go back 1, 2 or 3 on several of the squares. You will need to indicate the start and finish boxes.

alphabet
autograph
catastrophe
elephant
emphasis
geography
graph
nephew
pharmacy
pheasant
Philadelphia
philosophy

phone
phonics
phonograph
photo
phrase
physician
physics
prophecy
prophet
saxophone
telephone
typhoid

Each player in turn rolls the die and moves the indicated number of spaces. The player pronounces the word. If correct, the player remains in that space. If the answer is wrong the player must return to his/her last space. First player to cross the finish line is the winner.

Note: Make a similar gameboard but use larger squares and easier words for younger students.



Visual and Auditory Discrimination

Grades: 3, 4, 5, 6, 7, 8
Tests: 4, 11, 12, 31

NAME________________________

## MATCH THE SOUND

Part of the first word in each line is underlined. Decide what sound is represented by the underlined letter or letters. Look at the next three words in the line. One of them has the same sound as the first one. Mark an a, b, or c on an answer sheet that has been numbered 1 to 25.

| | | a | b | c |
|---|---|---|---|---|
| 1. | nose | silent | shoe | zoo |
| 2. | join | cage | coin | goal |
| 3. | try | funny | by | any |
| 4. | laugh | ghost | ought | phone |
| 5. | toad | doll | rode | good |
| 6. | goat | bowl | not | foot |
| 7. | neat | seek | bread | heart |
| 8. | tie | seize | rein | ice |
| 9. | thief | quiet | eight | feet |
| 10. | fight | laugh | thought | like |
| 11. | eight | either | apron | thief |
| 12. | ship | west | station | chair |
| 13. | told | lost | coast | your |
| 14. | lick | key | know | cent |
| 15. | white | with | eye | hid |
| 16. | candy | center | lick | sand |
| 17. | goat | join | begin | sigh |
| 18. | coin | cot | coy | cat |
| 19. | music | duck | haul | few |
| 20. | doll | don't | saw | bow |
| 21. | day | plant | pan | weigh |
| 22. | cake | cap | gate | come |
| 23. | use | us | sun | music |
| 24. | spine | tine | spin | pin |
| 25. | sore | sale | ore | sob |

## Visual and Auditory Discrimination

### Answer Key for Match the Sound

1. c
2. a
3. b
4. c
5. b
6. a
7. a
8. c
9. c
10. c
11. b
12. b
13. b
14. a
15. b
16. b
17. b
18. b
19. c
20. b
21. c
22. b
23. c
24. a
25. b

Visual and Auditory Discrimination Grades: All
Test: 28

**Skill**: 2-Letter Final Clusters

## WORD LIST

| ft | ld | lf | lk | lp | lt | mp |
|---|---|---|---|---|---|---|
| deft | bald | elf | bulk | gulp | belt | camp |
| draft | bold | golf | hulk | help | bolt | dump |
| drift | child | self | milk | pulp | cult | hemp |
| graft | held | shelf | silk | scalp | felt | limp |
| left | old | wolf | sulk | whelp | halt | plump |
| lift | scald | | | | hilt | pump |
| raft | weld | | | | silt | romp |
| swift | wild | | | | vault | stamp |

| nd | nk | nt | pt | rd | rk | rl |
|---|---|---|---|---|---|---|
| and | bank | ant | adapt | card | fork | curl |
| end | crank | burnt | adopt | hard | lark | girl |
| found | drink | hint | crept | heard | mark | hurl |
| fund | flank | hunt | kept | lard | perk | pearl |
| grand | pink | lent | rapt | sword | quirk | snarl |
| ground | plunk | stint | slept | ward | shark | swirl |
| pond | sink | tent | swept | word | shirk | twirl |
| sand | sunk | went | wept | | work | whirl |
| sound | tank | | | | | |
| | trunk | | | | | |

| rm | rn | rt | sk | sp | st |
|---|---|---|---|---|---|
| arm | barn | art | ask | clasp | best |
| farm | burn | fort | bask | crisp | first |
| firm | darn | heart | brisk | grasp | just |
| form | fern | hurt | frisk | lisp | last |
| harm | horn | part | mask | wasp | list |
| squirm | learn | quart | task | wisp | lost |
| swarm | turn | short | whisk | | most |
| term | worn | squirt | | | test |

228

Visual and Auditory Discrimination  Grades: All
Test: 28

**Skill**: 2-Letter Final Clusters

## FIND THE LO__ FINAL BLENDS

Directions: To finish the word write in the final 2-letter consonant cluster (blend) that is missing. Then write the whole word. You should have a whole word that makes sense in the sentence.

1. At school I work at my de_____. __________
2. On Halloween he dressed like a gho_____. __________
3. This is the fir_____ grade class. __________
4. This is the thi_____ grade class. __________
5. If you can't find your way, you are lo_____. __________
6. If you have a question a_____ your mom. __________
7. The policeman put a boa_____ over the hole so no one would fall in. __________
8. Set the table with a knife, fo_____ and spoon. __________
9. The boy and gi_____ will both go. __________
10. The bird will bui_____ his ne_____ in a tree. __________
11. The Christmas ca_____ was pretty. __________
12. We put butter on our co_____ on the cob. __________
13. The ba_____ played a march. __________
14. The rancher put his horse in the ba_____. __________
15. A map globe is like a picture of the wor_____. __________
16. Digging a hole is hard wo_____. __________
17. I will buy myse_____ a new car. __________
18. When I go camping I sleep in a te_____. __________
19. Be sure you clean the pai_____ brush. __________

# 3-LETTER INITIAL CONSONANT CLUSTERS

## WORD LIST

**sch**

scheme
scholar
school

**scr**

scramble
scrap
scrape
scratch
scream
screech
screen
screwdriver
script
scroll
scrub
scrunch

**shr**

shrank
shred
shrewd
shriek
shrill
shrimp
shrine
shrink
shrivel
shrub

**spl**

splash
splatter
splice
splint
splinter
split
spleen
splendid
splendor
splotch
splurge

**spr**

sprain
spray
sprawl
spread
spree
spring
sprinkle
sprite
sprout
spruce
sprung
spry

**squ**

squabble
square
squash
squat
squaw
squeak
squeal
squeek
squeeze
squid
squint
squirrel
squirt
squish

**str**

straddle
straggle
straight
strain
strange
strap
straw
strawberry
stray
streak
stream
street
strength
stretch
strict
strike
string
strip
stripe
stroll
strong
struggle

**thr**

thrash
thread
threat
three
threw
thrift
thrill
thrive
throat
throb
throne
throng
throttle
through
throw
thrust

Visual and Auditory Discrimination
Grades: All
Test: 29

**Skill**: 3-Letter Initial Clusters

## OPEN ENDED GAME

**Number of Players**: 3 or 4

**Materials**: One open-ended gameboard, see pages 253-268 . Twenty 3" x 5" cards, dice or spinner, and markers. One 5" x 8" answer card.

**Procedure**: See instructions for open-ended game, page 251. The following sentences need to be written on the game cards:

1. Some owls __________ in a very loud voice.
scr

2. The king sat on his __________.
thr

3. Mother used a needle and __________.
thr

4. Dad __________ the flowers to kill the bugs.
spr

5. Wayne put the __________ on the window.
scr

6. Larry saw __________ cars in the garage.
thr

7. The __________ was too hard to turn.
scr

8. Jill set up the __________ to water the lawn.
spr

9. Mario likes to __________ the water.
spl

10. Please cut the __________ on the package.
str

11. Mama didn't want Juan to go out with a sore __________.
thr

12. Cliff and Ann will __________ the floor.
scr

13. A skunk has a white __________ running down its back.
str

14. Don says he can __________ a ball high in the air.
thr

## 3-Letter Initial Clusters (Cont.)

15. Rick ________ water on the flowers.
spr

16. The baby ________ water in the tub.
spl

17. The little ________ ran up the tree.
squ

18. Maria lives on Main ________.
Str

19. The tiger has a black ________.
str

20. I like to eat ________ for dinner.
shr

### ANSWER CARD

1. screech
2. throne
3. thread
4. sprayed
5. screens
6. three
7. screw
8. sprinkler
9. splash
10. string
11. throat
12. scrub
13. stripe
14. throw
15. sprayed
16. splashed
17. squirrel
18. Street
19. stripe
20. shrimp

**Visual and Auditory Discrimination**

Grades: All
Test: 31

**Skill**: Other Vowels

# VOWEL DIGRAPHS

## ā

### ai

afraid
aid
aim
bail
bait
braid
brain
chain
claim

drain
fail
faint
gain
grain
hail
jail
laid
maid

mail
main
nail
paid
pail
pain
paint
praise
raid

rail
rain
raise
sail
snail
stain
tail
trail
train

### ay

away
bay
clay
crayon
day
decay
delay

gray
hay
jay
lay
may
pay
play

pray
ray
rayon
relay
say
slay
spray

stay
stray
sway
today
tray
way

### ei

beige
eight
freight

neigh
reign
rein

reindeer
sleigh
veil

vein
weigh
weight

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Vowel Digraphs (Cont.)

## $\bar{e}$

### ee

- bee
- beef
- beep
- beet
- cheek
- cheese
- deep
- eel
- feed
- feel
- feet
- fleet
- free
- geese
- green
- heel
- jeep
- keep
- knee
- meet
- need
- needle
- peek
- peep
- queen
- reef
- reel
- see
- seed
- seek
- seem
- sheep
- sheet
- sleep
- speed
- steel
- steep
- street
- sweep
- sweet
- three
- tree
- weed
- week
- weep
- wheel

### ea

- bead
- bean
- clean
- cream
- eagle
- eat
- feast
- heal
- heap
- heat
- lead
- leaf
- leap
- leaves
- meal
- mean
- meat
- neat
- peace
- peach
- peanut
- read
- real
- scream
- seal
- seat
- speak
- steal
- steam
- teach
- team

### ie

- achieve
- belief
- believe
- brief
- chief
- field
- grief
- hygiene
- niece
- piece
- priest
- rabies
- relief
- relieve
- shriek
- thief
- wield
- yield

### ey

- barley
- chimney
- donkey
- galley
- hockey
- honey
- jockey
- journey
- key
- kidney
- money
- monkey
- parsley
- pulley
- turkey
- trolley
- valley
- volley

## Vowel Digraphs (Cont.)

### ei

ceiling
conceive
deceive
either
leisure
neither
protein
receipt
receive
seize

## Ī

### ie

die
lie
pie
pliers
tie
untie
vie

### Other Ī vowel sounds

eye (ey)
aisle (ai)

## Ō

### ow

arrow
below
blow
bow
crow
elbow
fellow
flow
glow
grow
grown
hallow
Halloween
know
low
marshmallow
mow
own
pillow
row
shadow
show
slow
snow
sow
sparrow
swallow
throw
thrown
tomorrow
tow
window
yellow

### oa

board
boast
boat
coach
coal
coast
coat
coax
croak
float
foam
goal
goat
groan
load
loaf
loan
moan
oak
oar
oats
road
roam
roar
roast
soak
soap
throat
toad
toast

### ou

although
boulder
court
course
dough
four
fourteen
fourth
gourd
poultry
pour
shoulder
smoulder
source
though

### oe

doe
foe
goes
hoe
woe

## Vowel Digraphs (Cont.)

## $\overline{oo}$

### oo

balloon
bloom
boo
boom
boot
booth
broom
choose
cool
droop
food
fool
gloom
goose
igloo
loom
loop
loose
mood
moon
moose
noon
pool
proof
roof
room
roost
root
school
scoop
shoot
smooth
soon
spool
spoon
stool
stoop
swoop
too
tool
tooth
troop
zoo
zoom

### ew

blew
brew
chew
drew
flew
grew
jewel
jeweler
jewelry
knew
new
news
screw
shrew
stew
threw

### ou

coupon
group
routine
soup
souvenir
through
troupe
you
wound

### ue

blue
clue
cruel
due
glue
true
Tuesday

### ui

bruise
fruit
juice
pursuit
suit

### Other $\overline{oo}$ vowel sounds

neutral (eu)
canoe (oe)

## $\breve{oo}$

book
booklet
brook
cook
cookie
crook
foot
good
hood
hook
look
nook
rookie
shook
soot
stood
took
wood

## aw & au

### aw

awkward
bawl
caw
claw
crawl
dawn
draw
drawn
fawn
flaw
gnaw
hawk
law
lawn
outlaw
paw
raw
saw
shawl
sprawl
squaw
straw
thaw
tomahawk

### au

auto
autograph
automobile
caught
cautious
daughter
dinosaur
exhaust
faucet
fault
pause
sauce
saucer
somersault
taught

## DIPHTHONGS

## ow & ou

### ow

bow
brow
brown
brownie
clown
cow
crowd
crown
down
flower
fowl
frown
gown
growl
how
howl
now
owl
plow
powder
power
prowl
shower
towel
tower
town
vowel

### ou

about
around
blouse
bounce
cloud
couch
count
flour
found
fountain
grouch
ground
hound
hour
house
loud
mound
mount
mouse
mouth
ouch
ounce
our
out
pound
pout
proud
round
scout
shout
sound
sour
south
sprout
trout

# oi & oy

## oi

avoid
boil
broil
choice
coil
coin
foil
join
joint
loiter
moist
noise
oil
point
poise
rejoice
soil
spoil
tinfoil
toil
voice

## oy

alloy
annoy
boy
convoy
decoy
destroy
employ
enjoy
joy
joyful
loyal
oyster
royal
toy
voyage

# R - CONTROLLED

## ar

ar

alarm
arbor
arch
ark
arm
armor
army
art
artist
bark
barn
car
card
cart
chart
dark
far
farm
garden
guard
hard
harm
jar
march
mark
market
park
part
party
shark
star
start
starve
tar

## ur

ur

burn
burst
church
churn
curb
curl
curtain
curve
fur
furnace
hurl
hurt
hurtle
nurse
purse
purchase
spur
surf
surface
turbine
turf
turkey
turn
turtle
urban
urgent
urn

## er

er

after
berth
certain
clerk
confer
ever
father
fern
gather
germ
her
herd
nerve
over
paper
pattern
perch
person
serve
stern
term
thinner
together
under
verb
verse
winter
zipper

# ir

## ir

affirm
birch
bird
birth
chirp
dirt
fir
firm
first
girl
irk
quirk
shirt
sir
skirt
squirm
squirt
stir
stirrup
third
thirst
thirty
twirl
whirl

# or

## or

before
bore
born
chord
chore
cord
core
cork
corn
corner
for
fork
form
glory
horse
horn
more
morning
north
or
ore
order
port
short
sore
stork
storm
story
torn
wore
worn

## Words with or that do NOT fit

word
work
worry
worse

Visual and Auditory Discrimination

Grades: All
Test: 31

**Skill**: Other vowels

## VOWEL VARIETY

**Number of Players**: Partners

**Materials**: Forty 3" x 5" cards

**Procedure**: 1. Trace two candy jar patterns on tagboard or posterboard and label each one as shown below. Laminate or cover them with clear contact paper. Cut out each jar.

2. Trace forty candy shapes on colored game cards and write the following words on them (one word per candy piece):

again
aisle
bail
beat
blew
boat
boot
bread
brief
build
cheese
clean
cloud
coat
cow
earn
eight
fail
feather
goat
hoe
key
know
laugh
leaf
oak
rail
rain
seed
show
sweet
tail
taught
team
their
toe
treat
vein
wait
weigh

3. Laminate or cover the game cards with clear contact paper. Cut out each candy piece. Be sure to code each candy piece on the back as a self-checking device. All candy pieces that fit into the first candy jar are coded number one and all pieces that belong in the second jar are coded number two.

Visual and Auditory Discrimination

Grades: All
Test: In Appendix

## SILENT LETTERS

**b after m**

bomb
climb
comb
crumb
dumb
lamb
limb
numb
plumber
thumb
tomb

**g before n**

align
campaign
design
foreign
gnarl
gnash
gnat
gnaw
gnome
gnu
reign
resign
sign

**gh**

brought
caught
eight
fight
freight
light
neigh
neighbor
night
sight
sleigh
straight
taught
tight
weigh
weight

**h**

ghastly
ghetto
ghost
honest
honor
hour
oh
rhyme

**k**

knack
knapsack
knead
knee
kneel
knelt
knew
knife
knight
knit
knob
knock
knoll
knot
know
known

**l**

almond
balk
balm
calf
calm
chalk
folk
half
palm
talk
yolk

**n**

autumn
column
condemn
hymn
solemn

**p**

psalm
psychiatry
psyche
psychic
psychology

**s**

aisle
corps
debris
Illinois
island

**t after s**

fasten
glisten
hasten
listen
whistle

**w before r**

wrack
wrangler
wrap
wrapper
wreath
wreck
wren
wrench
wrestle
wring
wrinkle
wrist
write
writer
wrong
wrote

# COMPREHENSION

For a student to say "I read it but I do not understand it" is a contradiction in terms. The material has not been read if it has not been understood. The reader has in reality just been decoding words.

The major goal of instruction in reading comprehension is to provide the readers with experiences that will enable them to grow in their ability to think about and react to written material. In order to make use of a child's experience in discerning meaning, it is necessary to realize and accept that the meanings discerned may be different for each individual. Assignment of meaning depends upon prior experience and the purpose for reading.

Open-ended questioning by the teacher fosters thinking in which readers use their available, personal information to assign meaning to selections. This type of questioning should be a major part of reading instruction. Although factual questions have a place in reading instruction more emphasis should be placed on inferential type questions. Asking various types of open-ended questions not only motivates diverse thinking and interests but also increases childrens' desire to read.

Questions for stimulating students thinking may be found on pages 66-68. By making a copy of the pages, cutting them in half and mounting them on 5" x 8" tagboard cards, the questions are easily available when meeting with a skill group working on a specific comprehension skill.

In order to reinforce comprehension skills children should be provided with many short selections of high interest and be guided to look for meaning. When children are working with high interest material at a comfortable reading level they are better able to experience success in reading.

## TEACHING COMPREHENSION SKILLS THROUGH QUESTIONING

### SUPPORTING DETAIL

1. What does the picture show?
2. When did the story take place?
3. Describe one of the main characters. What does he or she look like?
4. What does this character do in the story?
5. What was there about the story that you liked? -didn't like?
6. Where is (character) in the story?
7. What is the name of the author?
8. Have you read any other books written by this author?
9. Describe the setting.
10. Have you ever been to a place like that?
11. Tell me about one incident in the story.

## TEACHING COMPREHENSION SKILLS THROUGH QUESTIONING

### SEQUENCE

1. What part of the book did you like best?
2. What part of the story did you think was the saddest? -funniest? -silliest?
3. What is happening in this picture? What happened before? -after?
4. Tell three important things that happened to (character). Which one happened first? -second? -last?
5. Tell five important things that happened in your story. Which one happened first? -last?
6. If you were going to write a play for the class from this book in three or four acts, what main event would make up each act?

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## TEACHING COMPREHENSION SKILLS THROUGH QUESTIONING

### RELATIONSHIPS

1. (Character(s)) went to see (character(s)) because ____________________.
2. The (incident) caused what to happen?
3. The (noun phrase) is a result of ______________________________.
4. The sound a (noun) makes in the story is compared to ______________.
5. What do the words in the title of the story or book remind you of?
6. Why do you think people sometimes do these things?
7. Can you tell me what this word means? i.e. shrimp, a small shellfish, etc.
8. What does school mean in this sentence? "As he glided through the water, he met a school of fish." What other meanings do you know for the word school?

---

## TEACHING COMPREHENSION SKILLS THROUGH QUESTIONING

### INFERENCE

1. Tell me what kind of a person __________ was? Why do you think so? ______________________________
2. Tell me what makes you think this story was true or not.
3. Do you think the story could really happen? Why?
4. Why do you think __________ said ______________________?
5. Why do you think the author chose the words ____________________ to describe ______________________?
6. What was the most important thing that __________ did? Why do you think so? ______________________________

## TEACHING COMPREHENSION SKILLS THROUGH QUESTIONING

### MAIN IDEA

1. Look at this picture. Tell the most important thing that is happening.
2. Can you draw a picture of the most important thing that happened in your book?
3. Which picture do you think showed the most important thing that happened in the story? Why did you choose that one?
4. Can you read this paragraph and tell the most important thing that happened in one sentence?
5. Tell the most important thing that happened in your book in one sentence.
6. Did anything happen in the story that you wish could happen to you? What? Why?
7. What other story have you read that is similar to this one? How?
8. Think up a new title for the story. Why did you choose the one you did?
9. Who was the main character?
10. If you wanted to find out if I had read this story, what one question would you ask me?
11. If you wanted to find out if I understood this story, what one question would you ask me?
12. What was the most important incident that happened in the story? Why was that so important?

## TEACHING COMPREHENSION SKILLS THROUGH QUESTIONING

### MAKING JUDGMENTS

1. Do you always believe everything you read in books? Why?
2. Would you like all your classmates to read this book? Why?
3. How did the story make you feel? (Happy, angry, sad, thankful, etc.)
4. What was there about this story that you liked? Didn't like?
5. How would you have felt if you had been (character) and (incident)? Why?
6. How do you think (character) felt when (incident) happened?
7. What do you think happened to the main character(s) in your story after the story ended? The next day? The next week? The next year?
8. How did (character's) feelings change at different times in the story?
9. Was the main character in the story perfect, or did he or she show certain weaknesses in something he or she did?
10. How do you think __________ felt when he discovered or saw __________?
11. Do you think __________ felt different at the end of the story? Why?
12. Why do you think the author chose to write about this?
13. Do you agree with the author's opinion about __________? Why, or why not?

Comprehension

Skill: Supporting Detail

Grades: 1, 2, 3
Tests: 6, 7, 10, 16

NAME ____________________

## Animals at the Children's Zoo

The children liked the zoo animals.
They saw a sheep and her lamb.
They saw a goat and her kid.
They saw a cat and her kitten.

1. Which animal was with the goat?

   a sheep      her kid      her lamb

   ____________________

2. Who saw the animals?

   the baby      a goat      the children

   ____________________

3. Which animal was with the cat?

   her kitten      a goat      a sheep

   ____________________

4. Which animal was with the lamb?

   a goat      a sheep      her piglet

   ____________________

Comprehension

**Skill**: Supporting Detail

Grades: 2, 3, 4
Tests: 16, 21, 27, 30, 32, 43, 44

## "ARE YOU SURE?"

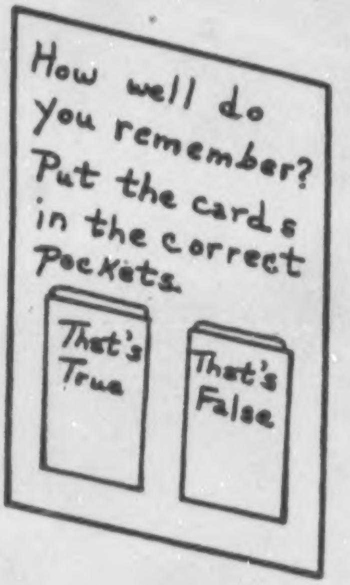
**Number of Players**: Partners

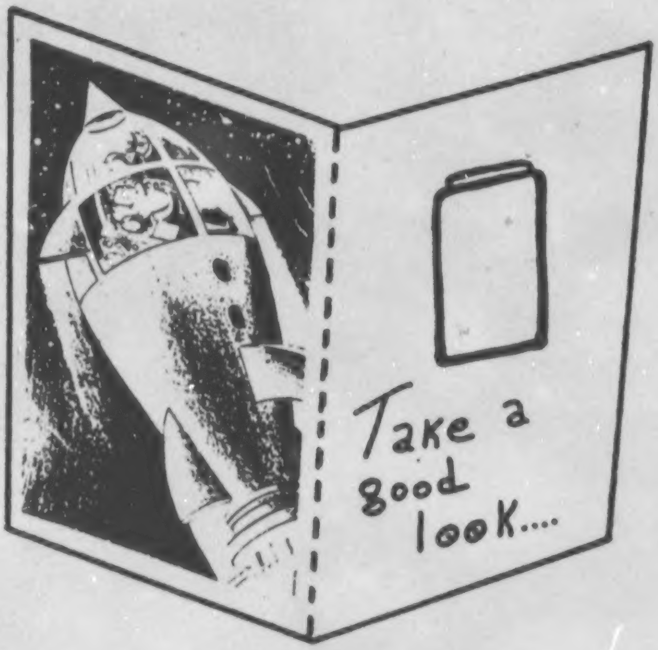
**Materials**: File folder, large picture, three library pockets. Twenty 3" x 5" cards with true or false statements about the details of the picture.

**Procedure**: Mount a picture on the inside of the folder on the left hand side. Paste a library pocket for storing cards on the right side. Mount two library pockets on the back of the folder. Write the directions on the folder. Color code the backs of the cards to match the correct pockets. Make a task card which says:

> Look at the picture as long as you wish. Take the cards from the library pocket on the inside of the folder, and close the folder so that the back of the folder is facing up. Read each card and place it in the correct pocket. Do not look back at the picture. After all the cards have been placed, remove the cards, one pocket at a time, and turn them over to see if they match the color coding.

Note: This is an excellent activity for a reinforcement center.


How well do you remember? Put the cards in the correct Pockets.
That's True
That's False


Take a good look....

Comprehension

Skill: Supporting Detail

Grades: 2, 3, 4, 5, 6, 7,
Tests: 21, 27, 30, 32,
43, 44, 57, 58,
59, 60, 61

## QUESTION MATCH

**Number of Players:** 2 - 4

**Materials:** Sixty 3" x 5" cards

**Procedure:** Use thirty of the cards to make question cards. Each question card has one of the following questions: WHO? WHAT? WHERE? WHEN? WHY? HOW? Make five duplicate cards for each question. Use the other thirty cards to make phrase cards. On five cards, write different phrases that tell "who", "what", "where", "when", "why" and "how".

Shuffle the deck of cards and place five cards face-up in the center of the table. If the first player can match any question card with a phrase card that answers it, the player picks up that pair of cards and replaces them with two cards drawn from the deck. When the player cannot find a matching pair, he or she draws one card from the deck. If the same player can find a match for the new card on the table, the pair is picked up and the player draws again. However, if a match is not found for the last card drawn, the card is placed face up with the others and the next player has a turn. If there are fewer than five cards face up when a player's turn is begun, the player draws enough cards to bring the total to five; then replaces any pairs that are picked up before having to draw the first regular card from the deck. The game continues until all cards have been picked up: the player picking up the most pairs is the winner.

**Note:** The same or similar sentences can be used on work sheets or on cards for an open-ended game, see open-ended game boards, pages 253 - 268. See instructions for open-ended games, page 251.

1. We will see you in the morning. (When)
2. Bill walked very slowly. (How)
3. Two boys ran to school. (Who)
4. We saw Jill at the store. (Where)
5. Cliff came here because it's fun. (Why)
6. The football is lost. (What)
7. He told Don the story. (Who)
8. She found a big box of toys. (What)
9. It was in the hall. (Where)
10. Bring the book as soon as possible. (When)
11. Bob began to cry in order to get sympathy. (Why)
12. It moves as slow as a snail. (How)

Question Match (Cont.)

13. Ben Franklin was a famous American. (Who)
14. Take a clean shirt with you. (What)
15. The trees made shadows on the wall. (Where)
16. Wayne went on a train trip this morning. (When)
17. Take your umbrella because it looks like rain. (Why)
18. Some people look happy by smiling a lot. (How)
19. The Cheyenne Indians became great buffalo hunters. (Who)
20. A salamander belongs to a class of animals called amphibious. (What)
21. The entire class went to the zoo. (Where)
22. Columbus came to America in 1492. (When)
23. Construction workers often use hard hats to protect their heads and necks. (Why)
24. He paints magnificent pictures with great flair. (How)
25. Flint knives were used by the men and women who lived in the stone age. (Who)
26. Frank Bonham is a famous author. (What)
27. Wayne put the old coin in a safe place. (Where)
28. As we were leaving we saw a strange sight. (When)
29. Because of the accident he hesitated to drive again. (Why)
30. You will be able to solve the problem by careful planning. (How)

Note: An excellent source of sentences at all reading levels can be found in
Understanding Word Groups Dexter & Westbrook, Ltd.
958 Church Street Baldwin, New York 11510

Comprehension

**Skill**: Supporting Detail

Grades: All
Tests: 6, 7, 10, 16, 21,
27, 30, 32, 43, 44,
57, 58, 59, 60, 61

## WHAT DO YOU REMEMBER?

**Number of Players**: Small skill group

**Materials**: Handout of a detailed description

**Procedure**: The teacher gives each student a copy of a detailed description of a very weird, far-out character. Instruct the students to read the selection very carefully. Then tell them to return the descriptions. Tell the students to draw a picture of the character and put in as many details as they can remember reading. Students should share their stories in small groups, comparing their interpretation of the character.

**Variation**: Instead of a weird, far-out character, give a description of a place, i.e., a range of mountains on the north, a stream in the middle, trees in the southwest, etc. Have students draw a map of the setting.

**Skill**: Supporting Detail

Grades: All
Tests: 6, 7, 10, 16, 21,
27, 30, 32, 43, 44,
57, 58, 59, 60, 61

## MURAL GAME

**Number of Players**: Small skill group

**Procedure**: Have a small group read the same story, but before they read, tell them that they are going to play a game afterwards about the characters and the background in the story, so they should remember as many details as they can.

After the students have read the story, have them put the story material away. Using the blackboard or paper, tell them that each one is to make part of a mural. Assign characters and one by one have them draw the character or object and tell about it. (For example: I'm Jill; I have brown hair; and I run in the story. Or - I'm a tree; I move in the wind; and I'm old and tall.)

Comprehension

**Skill**: Supporting Detail

Grades. All
Tests: 6, 7, 10, 16, 21,
27, 30, 32, 43, 44,
57, 58, 59, 60, 61

## IMPOSTER

**Number of Players**: Small skill group

**Materials**: Write the name of one of the characters on one side of a 5" x 8" card. On the reverse side, write several statements about the character using the second person. Characters may be used from stories that have been read in class.

**Procedure**: Give one student one of the cards. The student then goes before the Judge and says "I am Henry" (or whoever is assigned). Then the Judge takes the card and reads each statement. The Character replies either True or False. If the student is correct, he/she replaces the Judge, and if wrong, the Judge says "Imposter!" and the student must go back and sit down. Then another student is chosen to be another character.

HENRY

1. You had a friend named Ramona. (True)
2. You didn't like school. (False)
3. You made donuts. (True)
4. Charlotte, The Spider, was in your story. (False)

Note: For younger students, use appropriate story, i.e., Three Billy Goats Gruff, Clifford the Big Red Dog.

**Comprehension**

**Skill**: Supporting Detail

Grades: 3, 4, 5, 6
Tests: 30, 32, 43, 44, 57, 58, 59, 60, 61

NAME________________________________

Match by drawing a line from the phrase to what, where, or when.

what

where

when

throughout the night

in parts of Alaska

over the world's highest mountains

for thousands of years

the world's best-known canyon

at one time

fern asparagus

on game preserves

to China

hundreds of years

vegetable matter

in South America

at any given moment

around the world

wild herds of the west

*Variations*: 1. *This may be mounted on chipboard, laminated, and made into a lace board. See page 241 for instructions.*

2. *Phrases may be put on cards and used with a pocket sorting board. See page 233 for instructions.*

**Comprehension** Grades: 1, 2
Tests: 10, 16, 21

**Skill**: Sequence

NAME________________________________

Read each story. Number the sentences 1, 2, 3, 4.

## Mother Hen Comes Home

Mother Hen went on a trip. Her chicks looked and looked for her. They missed her. They are happy now that Mother Hen is home.

____ Now Mother Hen comes home.
____ Mother Hen is away from home.
____ They look and look for her.
____ The little chicks miss Mother Hen.

---

## The Raccoons

Mother Raccoon was sleeping up in the tree. She came down to look for food. Her children followed her. Mother looks for food. Her children play under the tree. Mother Raccoon goes up the tree. Her children follow her.

____ The little raccoons follow her.
____ Now they follow Mother Raccoon up the tree.
____ The little raccoons play under the tree.
____ Mother Raccoon comes down the tree.

Comprehension

**Skill**: Sequence

Grades: 1, 2
Tests: 10, 16, 21

NAME______________________________

Read each story. Number the sentences 1, 2, 3.

## Food for a Kangaroo

The kangaroo goes for a walk. He looks for food. There is food near a log. He finds it. Then he goes home with the food.

____ The kangaroo hops home with the food.

____ The kangaroo looks for food.

____ The kangaroo finds food near a log.

---

## Frog

The rooster went for a walk. He is looking for something. He sees a frog. The rooster asks "Who are you?" The frog tells him.

____ "I am a frog."

____ A rooster sees a frog.

____ The rooster says, "Who are you?"

Comprehension

**Skill**: Sequence

Grades; 1, 2, 3
Tests: 6, 7, 10, 16,
21, 27, 30, 32

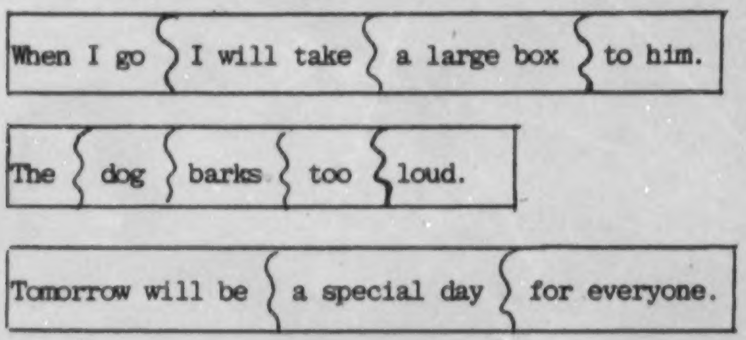
## PUZZLERS

**Number of Players**: Partners or small skill group

**Materials**: Small covered box or manila envelope, tagboard strips, felt pen

**Procedure**: Print sentences on the tagboard strips. Cut sentences apart in a zig-zag way by word, or phrase.

The child reads the mixed up parts and tries to arrange them in an order that will express a complete thought. If the ends of each part fit together, he has arranged them correctly.



When I go | I will take | a large box | to him.

The | dog | barks | too | loud.

Tomorrow will be | a special day | for everyone.

**Variation**: Whole paragraphs may be used by cutting sentences apart. Using nursery rhymes is excellent for beginning readers.

**Note**: Most students do not use the zig-zag line as a self-correcting device. They actually tend to put it together as a jigsaw puzzle. However, seeing the correct phrase or word order makes this a useful learning tool.

**Comprehension**

**Skill**: Sequence

Grades: All
Tests: 16, 21, 27, 30, 32, 43, 44, 57, 58, 59, 60, 61

## PUT IT ALL TOGETHER

**Number of Players**: Small skill group

**Materials**: Copy of a short story typed on a primary typewriter; piece of construction paper for each student.

**Procedure**: Duplicate sufficient copies of one story to accommodate the number of children in the reading group. Cut the duplicated copies of the story into one-line strips and mix the strips together in a box. Put the box on the reading table. Each child has to sort out the story and arrange the strips in proper order on a piece of construction paper.

**Variation**: 1. A contest can be held by dividing the group into two or more smaller groups. Place the story strips into separate boxes, one for each group. Each team works separately to unscramble the story. The first team to finish is the winner.

2. Duplicate different stories and cut these into strips to make the assignment more difficult. Place the strips into one box. Students would be required to unscramble more than one story.

**Skill**: Sequence

Grades: 1, 2, 3
Tests: 10, 16, 21, 27, 30

## PUT IT BACK TOGETHER

**Building Stories**. Make up a simple story of about three or four lines. Print each sentence on a one inch strip of colored tagboard and then cut the sentence apart. Either cut it into words or phrases. For example:

A cat heard a loud noise behind her.

She saw a big friendly dog.

The dog was afraid and ran away.

The player must use the strips in the envelope to reconstruct a story. However, he does not have to use all the strips. Often the child will be able to make an entirely different story. For example:

A cat ran away.

The dog heard a loud noise.

**Note**: This is an excellent activity for a reinforcement center. See page 269.

Comprehension                                    Grades: 1, 2, 3
Tests: 16, 21, 27, 30, 32

**Skill**: Sequence

NAME ________________________________

## The Jet Pilot

1. The pilot of a jet must know many things. He goes to school to learn all he can about a jet. His teacher shows him how to take off and to land. A pilot must learn the way to the places he wants to go before he can fly alone without another pilot.

2. Many people at the airport help the pilot. Some men work on his airplane to make it ready and safe to fly.

3. Someone in the control tower tells him over the radio when he can take off or land. He is told how high to fly and if there is rain or snow along the way. The voice on the radio tells him which way and how fast the wind is blowing.

4. A pilot is glad to have all the help he can get. He wants the people who fly in his airplane to be safe.

---

Which part of the story tells what a jet pilot must know? __________

Which part tells that he wants the people who ride with him to be safe? _____________

Which part tells about the people who make the jets ready and safe to fly? _____________

Which part tells about the voice on the radio from the control tower? _____________

Comprehension

Skill: Sequence

Grades: 2, 3, 4
Tests: 30, 32, 43

## MAKING A PICTURE

Read this story to yourself and follow the direction at the end.

Would you like to make a picture to hang in your room? Of course, there are many different ways to make pictures. Here is one way which might be easy and fun to try.

Find a small piece of wood. You may use some sandpaper to make the edges nicer. Then wipe the wood with a wet cloth so that the wood will be clean.

When your board is ready, draw three or four large rings so that they touch or cover one another. Then color the part in each ring a different color. If possible, use colors which will look pretty in your room.

Perhaps your father will let you use some paint to paint the edges, since it would be hard to color there. It won't really matter if your father doesn't want you to use paint. You will have an interesting picture anyway.

When you have finished, put two small nails at the back on each side. Wrap the end of a small piece of strong string around each nail and it will be ready to hang.

Put the number 1 after the group of words which tells what you should do first, the number 2 after the second, and so on.

put nails and a string on the back _____
draw some large round rings _____
use sandpaper on the edges _____
choose a piece of wood _____
wipe the board with a wet cloth _____

Comprehension

**Skill**: Sequence

Grades: 2, 3, 4
Tests: 27, 30, 32, 43

NAME________________________________

## Fun with Sentences

Each group of words below is part of a sentence. Put the number 1 beside the one which should come first, the number 2 beside the middle part, and 3 beside the last part.

1. the son of a King ____
   a prince ____
   is called ____

2. with much lightning ____
   there was ____
   a bad storm ____

3. only someone ____
   who was a real princess ____
   he wanted to marry ____

4. but could not find ____
   he searched everywhere ____
   a real princess ____

5. almost anyone ____
   to marry the prince ____
   would have been happy ____

6. the Queen ____
   with goodness ____
   was filled ____

7. the daughter of a King ____
   a princess ____
   is called ____

8. from country to country ____
   looking for a princess ____
   he traveled ____

9. from his shoes ____
   until the heels were worn ____
   he walked ____

10. that such a woman ____
    the Queen said ____
    could not be found ____

Comprehension

Grades: 2, 3, 4, 5, 6
Tests: 6, 7, 10, 16, 21, 27, 30, 32, 43, 44, 57, 58, 59, 60, 61

**Skill**: Sequence

## SCRAMBLE

**Number of Players**: Small skill group

**Materials**: Each child prepares a scrambled sentence. (Example: big the is dog.)

**Procedure**: 1. Write a scrambled sentence on the chalkboard. (If the sentence is long, a hint may be given by circling the initial word, capitalizing the initial letter, or adding the period after the last word in the sentence as correctly written.)

2. Children are to write the sentence correctly.

3. The first child chosen who has written the sentence correctly writes his own scrambled sentence on the chalkboard for the class to guess.

Grades: 2, 3, 4
Tests: 21, 27, 30, 32, 43, 44

**Skill**: Sequence

## DEVELOPING SEQUENCE COMPREHENSION

**Number of Players**: Small skill group

**Material**: Staple two or three sheets of paper together in book fashion - that is, stapled down the left-hand edge. One book for each student.

**Procedure**: To strengthen student understanding of story sequence and to provide exercise in finding the main thoughts of a story, have children in grades two to four make their own books.

Assign a different story to each child and tell them to illustrate the story in sequence. Children who are able should be required to write captions for the illustrations.

When pupils have completed the assignment, they should be allowed to tell their stories to other members of the class by showing and explaining the illustrations.

Comprehension

Skill: Sequence

Grade: All
Tests: 10, 16, 20, 27, 30

## STORY RELAYS

Number of Players: Two teams

Materials: Chalkboard, chalk

Procedure: The first child on each team walks to the chalkboard, begins a sentence, returns, tags the next child in order, and each child adds a word until all members are finished. They must form a coherent sentence or sentences. The first team finished wins.

Variations: Children may race, using movements other than walking. Sentences may be formed from cards containing words, rather than written on the chalkboard one word at a time.

Comprehension

Skill: Sequence

Grades: K, 1, 2, 3
Tests: 6, 7, 10, 16, 21, 27, 30, 32

## THE USE OF DRAWINGS TO FOSTER COMPREHENSION

Number of Players: Small skill group

Materials: Short story duplicated for each child

Procedure: Tell the group that they are going to read a story. This activity will be followed by a session during which they will illustrate an event from a list of events selected by the group. Follow the reading activity with a discussion that emphasizes and enumerates the sequence of events in the story. List this sequence on the blackboard.

Assign each child an event or events from the list to illustrate. The events can be compiled in sequential order in book form. The book can be placed in the library corner for future reference.

Knowing that they eventually will be illustrating an event makes children read with more concentration and interest in order to obtain description and details they may otherwise overlook.

Note: Teachers of Kindergarten and First Grade children may wish to have children do the activity as the teacher reads a story.

Comprehension

Skill: Sequence

Grades: All
Tests: 6, 7, 10, 16, 21, 27, 30, 32, 43, 44, 57, 58, 59, 60, 61.

## SEQUENCE OF EVENTS

Read a story such as The Three Billy Goats Gruff to students. After reading the story, discuss the story and the sequence of events. Lead them to discover that: someone/ wanted something/ but there was a problem / so the problem had to be resolved.

| SOMEBODY | WANTED | PROBLEM | RESOLVED |
|---|---|---|---|
| Three Billy Goats Gruff | to cross the bridge to eat grass | Troll stopped them | Big Goat pushed the Troll in the river. |

Help students discover that this sequence of events is almost universal in stories. It is the same in almost all the stories they read, such as: basal readers, fairy tales, short stories. If the students will think back over the plot, using the above guidelines, they will be able to sort the sequence of events.

## FIRST, NEXT, LAST

Just before children go home, help them recall the order in which activities were accomplished during the day. "What did we do first? Next? Last?" or "When you got up this morning, what did you do first? Next? Last? before you left for school."

## LANGUAGE CLUES

Teach students to watch for language clues that will help them with sequence. For example: first, then, later, before, during, after. For older students the words might be: subsequently, retrospectively.

## SENTENCE STRIPS

Have children retell a story. Put each part on a sentence strip. Hand out the strips and have the children arrange themselves in sequential order as the story was presented.

## FOLLOWING DIRECTIONS

Have students follow directions. Begin by giving two directions to young children then gradually progress to three or four.

## LET'S PLAY A GAME

Have students write the rules for a game and tell step by step how to play it.

## STEP BY STEP

Have students write or tell how to make something. They should give step by step directions.

## ADD A SENTENCE

Hang a large piece of butcher paper or a roll of shelf paper. Have each student add one sentence to a class or group story.

## CARTOONS

Cut apart cartoon sections from the Sunday newspaper. Mount the separated pictures on 4" x 4" construction paper. Have students reassemble them in proper sequence.

Comprehension

**Skill**: Sequence

Grades: All
Tests: 6, 7, 10, 16,
21, 27, 30, 32,
43, 44, 57, 58,
59, 60, 61

## MY STORY

**Number of Players**: Small skill group or whole class.

**Materials**: Four pieces of 4" x 4" light colored construction or drawing paper, and one piece of string (24" long) for each student; transparent tape.

**Procedure**: Ask students to write on one of the pieces of paper something important that has happened to them during their life. Allow ample time for the students to complete the task.

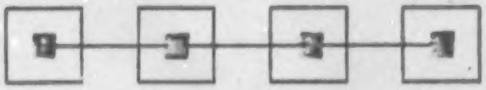
Ask the students to take another piece of paper and describe another important incident in their life. Again, allow students ample time to finish the task.

Proceed in the same way with the other two pieces of paper.

When the students have finished, ask them to put the papers in chronological order. They should start by putting the one that happened first on their left. Then they should go in chronological order from left to right with the most recent event on the right.

Attach the string to the back of the paper with tape.

Back



Children may then attach the finished product to the bulletin board for a display of important personal events in sequential order.

**Variations**: 1. Younger students will prefer to draw pictures rather than write the events.

2. Use three to five pieces of paper depending upon the maturity of the students.

265

Comprehension

**Skill**: Relationship

Grades: All
Tests: 6, 7, 10, 16, 21,
27, 30, 32, 43, 44,
57, 58, 59, 60, 61

## LISTENING CENTER ACTIVITY

**Number of Players**: Small skill group

**Materials**: Teacher made tape with groups of words similar to the examples below.

**Procedure**: *Record the following:*
I am going to say four words. One of them does not belong in the group. See if you can tell yourself the word that does not belong before I say it.

For Tests 6, 7, 10, 16, 21, 27 use the following groups of words:

Red, green, blue, hat.
(*Pause*) That's right, hat is not a color.
Cat, dog, mitten, rabbit.
(*Pause*) Yes, mitten is not an animal.
Boat, car, man, wagon.
(*Pause*) Man is the answer. Man is not to ride in.
Orange, pear, bell, apple.
(*Pause*) A bell's not a fruit.
Beet, potatoes, chair, tomato.
(*Pause*) That's right, chair is not a vegetable.
Table, chair, sun, desk.
(*Pause*) Yes, it's sun. Sun is not furniture.
Sun, moon, star, flower.
(*Pause*) Flower is the answer. It is not high in the sky.
Pink, red, yellow, shoe.
(*Pause*) Shoe doesn't belong here. It is not a color.
Dress, shirt, car, skirt.
(*Pause*) That's right, car is not clothes.

For Tests 30, 32, 43 add the following groups of words:

Rose, peach, pear, apple.
(*Pause*) Yes, rose is not a fruit.
Soldier, gun, knife, club.
(*Pause*) Soldier is the answer.
Nephew, sister, birthday, grandmother.
(*Pause*) Yes, it's birthday.
Bandit, robber, thief, cousin.
(*Pause*) That's right, cousin.
Crib, baby, cot, bunk.
(*Pause*) Baby doesn't belong here.
Bear, den, kitchen, attic.
(*Pause*) Bear is the answer.

Listening Center Activity (Con't.)

**Skill:** Relationship (Con't.)

For Tests 44, 57, 58, 59, 60, 61 add the following groups of words:

Cotton, dress, velvet, wool.
*(Pause)* Dress doesn't belong here.
Aluminum, gold, ring, copper.
*(Pause)* That's right, ring.
Almanac, dictionary, encyclopedia, paper.
*(Pause)* Paper is the answer.
Lavender, cloth, scarlet, violet.
*(Pause)* Yes, cloth is the answer.
Avenue, lane, boulevard, car.
*(Pause)* Car doesn't belong here.
Measles, mumps, foot, polio.
*(Pause)* That's right, foot.
Moccasin, shoe, rattler, boa.
*(Pause)* Yes, it's shoe.

Note: This listening game can be used in a center with a worksheet or with simple directions to write down the word that doesn't belong in the group. Students can also call the answer out loud to each other perhaps, alternating turns.

The same groups of words may be used on cards with an open-ended gameboard, see pages 253 - 268. See instructions for open-ended games, page 251.

They may also be typed on a ditto for use as worksheets or mounted and laminated for use in a reinforcement center. See page 269.

Comprehension

**Skill**: Relationship

Grades: All
Tests: 6, 7, 10, 16, 21,
27, 30, 32, 43, 44,
57, 58, 59, 60, 61

## FIGURATIVE LANGUAGE - SIMILIES

**Number of Players**: 3 to 4

**Materials**: Open-ended gameboards, see pages 253 - 268, phrases on small cards, markers, spinner or die.

**Procedure**: Place each phrase on a piece of colored tagboard. Laminate for durability. For example, use the phrase "as blue as ______." The child then must say a word that will fit appropriately in the blank, such as "as blue as the sky." Accept any answer the child can defend. Place the phrase cards with the open-ended gameboard. See instructions for open-ended game, page 251.

For Tests 6, 7, 10, 16, 21, 27 use the following words:

as blue as
as cold as
as fast as
as fat as

as funny as
as gold as
as green as
as happy as

as high as
as long as
as pink as
as red as

as slow as
as sweet as
as tall as
as thin as

For Tests 30, 32, 43 add the following words:

as dull as
as heavy as
as hungry as
as kind as
as light as

as mean as
as noisy as
as pretty as
as quiet as
as loud as

as scary as
as sharp as
as short as
as sick as
as smooth as

as sour as
as square as
as tired as
as ugly as

For Tests 44, 57, 58, 59, 60, 61 add the following words:

as anxious as
as crumbly as
as exciting as
as patient as
as piercing as
as prickly as

as silvery as
as slimy as
as slippery as
as sticky as
as stubborn as
as understanding as

Note: Different colored cards may be used to separate easy and more difficult levels.

|  |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|
| hard | ■ | sharp | ■ | short | ■ | strong | ■ |
| ■ | happy | ■ | small | ■ | clear | ■ | red |
| low | ■ | yellow | ■ | furry | ■ | safe | ■ |
| ■ | high | ■ | shiny | ■ | thin | ■ | blue |
| nice | ■ | long | ■ | bright | ■ | hot | ■ |
| ■ | old | ■ | empty | ■ | fast | ■ | angry |
| big | ■ | green | ■ | cold | ■ | dull | ■ |
| ■ | full | ■ | slow | ■ | new | ■ | soft |

See instructions for Checkers, page 246.

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Comprehension

Grades: 3, 4, 5, 6
Tests: 21, 27, 30, 32, 43, 44, 57, 58, 59, 60, 61

Skill: Relationship

## HUSH LITTLE BABY

**Procedure**: *Students sing the song to the tune of Hush Little Baby ending with section eight. After they are familiar with the words leave out the last sentence (*We'll take a walk all around the town) and instead go on with "Papa's going to buy you," etc. Students add appropriate words in the blanks.*

1. Hush, little baby, don't say a word,
Papa's going to buy you a mocking bird.
2. If that mocking bird won't sing,
Papa's going to buy you a diamond ring.
3. If that diamond ring turns brass,
Papa's going to buy you a looking glass.
4. If that looking glass gets broke,
Papa's going to buy you a billy goat.
5. If that billy goat won't pull,
Papa's going to buy you a cart and bull.
6. If that cart and bull turn over,
Papa's going to buy you a dog named Rover.
7. If that dog named Rover won't bark,
Papa's going to buy you a horse and cart.
8. If that horse and cart break down,
*We'll take a walk all around the town.

Papa's going to buy you a _________________________
9. If that _________________________
Papa's going to buy you a _________________________
10. If that _________________________
Papa's going to buy you a _________________________
11. If that _________________________
Papa's going to buy you a _________________________
12. If that _________________________
Papa's going to buy you a _________________________
13. If that _________________________
Papa's going to buy you a _________________________.

Comprehension

**Skill**: Relationship

Grades: All
Tests: 6, 7, 10, 16, 21,
27, 30, 32, 43, 44,
57, 58, 59, 60, 61

## CATEGORIZING

**Number of Players**: 1 or 2

**Materials**: Task board 14" x 22", word cards 1½" x 4", using proper reading level. Word card sets can be changed periodically.
Note: For K-1 use pictures instead of words.

**Procedure**: The student sorts the word cards under the appropriate categories. The student could then copy the words from the appropriate categories onto a piece of paper. To extend the task have words alphabetized as they are copied. This three step activity goes from the manipulative process to a writing process.

| CATEGORIZING | | | |
|---|---|---|---|
| Good To Eat | Time | Things To Do | Numbers |
| | | | two |
| | | | |

**Categories**:

| Good to eat | Time | Things to do |
|---|---|---|
| meat | week | play |
| turkey | hour | sing |
| raisins | month | travel |
| bread | second | draw |
| watermelon | minute | jump rope |
| lettuce | often | talk |
| lollipop | since | read |
| | o'clock | run |
| | | dance |

## Categorizing (Con't.)

### Happy

enjoy
cheer
jolly
glad
merry
pleased
grin
smiling
fun
laughing

### Things to read

letters
jokes
signs
riddles
books
words
pages

### Numbers

thirty
six
fifteen
eleven
nine
seven
twenty
twelve
ten
fifty

### Fruit

orange
banana
apple
apricot
plum
peach
date
fig

### Colors

tan
rose
green
brown
yellow
black
blue
purple
pink

### Animals

camel
cattle
kangaroo
donkey
crocodile
buffalo
goat
burro
fox

## MORE DIFFICULT CATEGORIES

### Motionless

stagnant
inert
stagnate
tarry
becalm
deadlock
immobility
quiescent
anchored
stationary
impassive
dormancy
inaction

### Sound

voiced
intone
phoneme
vowel
tenor
diphthong
monotone
sonance
consonant
articulation
supersonic
vocalization
distinct

### Heat

lukewarm
tepid
parched
tropics
centigrade
stifling
sultry
thermometer
combustion
torrid
searing
simmer
sweltering
humid

Comprehension

**Skill**: Relationship

Grades: 3, 4, 5, 6, 7, 8
Tests: 30, 32, 43,
44, 57, 58,
59, 60, 61

## CATEGORIZING

**Number of Players**: Small skill group or whole class

**Materials**: Chalkboard, word cards

**Procedure**: Divide the group into three teams. Across the upper part of the chalkboard write the headings listed below. On separate slips of paper write words associated with the various categories listed on the chalkboard. Give each member a word and ask him to write the word under the proper heading. Award two points for each correct response. The team with the most points at the end of the activity is the champion.

This is a suggested list for Tests 30, 32, 43.

| It Hurts | Breakfast Food | People |
|---|---|---|
| slap | cereal | wife |
| bump | fruit | neighbor |
| fall | eggs | writer |
| strike | muffins | newsboy |
| kick | jam | nurse |
| burn | cornflakes | salesman |
| scratch | bacon | president |
| pinch | toast | fisherman |
| bruise | hot cakes | teacher |

This is a suggested list for Tests 44, 57, 58, 59, 60, 61.

| Foreign Language | Science | Art | Social Studies | Music | Mathematics |
|---|---|---|---|---|---|
| Latin | uranium | masterpiece | constitution | viola | equation |
| Tagalog | minerals | sculpture | confederacy | symphony | logic |
| bon voyage | fossil | design | Congress | cello | quotient |
| siesta | astrologer | etching | suffrage | staccato | numerals |
| patio | combustion |  | commonwealth | baton |  |
|  | erosion |  | diplomat | percussion |  |
|  | vegetation |  | neighbors | soprano |  |
|  |  |  | Australia |  |  |

**Note**: Additional commercial sources for categories and words:
Vocabulary Improving Practice (VIP) Harcourt Brace Jovanovich.

Grope 'n Group Levels A, B, C, D, E and F Teachers Exchange of San Francisco, 630 5th Avenue, San Francisco 94121

Comprehension

Skill: Relationship

Grades: 3, 4, 5, 6, 7, 8
Tests: 16,21,27,30
32,43,44,57
58,59,60,61

## CATEGORIES

Number of Players: Three to five

Materials: Work Sheet, page 97.

Procedure: First, each player is asked, in turn, to name a category, such as fruits, flowers, vegetables, animals, birds, fish, colors, fabrics, tools, boats, trees, gems, countries, authors, meats, etc. As these are named, each player lists them vertically in a column at the left.

Then the players agree on some word of five letters — say, HANDS. This is spelled out, spaced across the top of the page, starting just to the right of the list of categories, to form a rectangular chart with boxes wide enough to accommodate fairly long words.

Now, each player, within a given time, has to fill in the boxes by finding in every category a word that begins with the letter at the top of the column.

Plenty of time should be allowed so most of the boxes will be filled in. Then the papers are exchanged for scoring. A player reads aloud the first word on the paper before him, and the other players check to see whether it is duplicated on theirs. If the word is correct, the player who thought of it receives as many points as there are other players who did not have it on their papers. Thus, if five are playing the game, and only one thought of acetate, that word should be worth four points; but if two players had thought of it, each of them would be credited with three points for it. The same procedure is followed with each word, and the player who scores the most points wins.

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# CATEGORIES

| | | | | | |
|---|---|---|---|---|---|
| | | | | | |
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Comprehension

Grades: 3, 4, 5, 6
Tests: 21, 27, 30,
32, 43, 44, 57,
58, 59, 60, 61

Skill: Relationship

## ANSWER KEY FOR ANALOGIES

Procedure: The following four pages contain examples that may be used to teach and reinforce the relationship skill of analogies.

Page 99 is meant to be used with Tests 21, 27, 30, 32. The correct answers are:

1. south
2. night
3. cage
4. happy
5. breakfast
6. brain
7. flower
8. mother
9. school
10. hand

Page 100 is meant to be used with Tests 30, 32, 43. The correct answers are:

1. three
2. hand
3. happy
4. aquarium
5. wax
6. flower
7. sweet
8. lose
9. difference
10. ankle
11. finger
12. fish
13. arrow
14. water
15. beef
16. down
17. lake
18. bite
19. voices
20. words

Page 101 is meant to be used with Tests 44, 57, 58, 59, 60, 61. The correct answers are:

1. robins
2. oak
3. whistle
4. boxing
5. blue
6. batter
7. plane
8. button-hole
9. joy
10. head
11. hump
12. bed
13. sword
14. bullet
15. tree
16. crow
17. dam
18. horse
19. throw
20. Mexico
21. hearing
22. fiddler
23. air

Page 102 is also meant to be used with Tests 44, 57, 58, 59, 60, 61. The correct answers are:

1. dome
2. candy
3. breeze
4. light
5. hop
6. cottage
7. child
8. road
9. solid
10. inch
11. lamp
12. silk
13. pleasure
14. sapling
15. chimney
16. shoe
17. corn
18. cereal
19. stupid
20. fish
21. loud
22. coffee

Name ____________________

Grades: 2, 3, 4
Tests: 21, 27, 30, 32

## How Are They Alike?

Read each incomplete sentence. Then write the word that best completes the sentence.

1. East is to west as north is to __________.
soft south warm

2. Light is to day as dark is to __________.
snow morning night

3. Fish is to tank as tiger is to __________.
claws cage teeth

4. Cry is to sad as laugh is to __________.
happy wise now

5. Evening is to dinner as morning is to __________.
lunch day breakfast

6. Smell is to nose as think is to __________.
brain ear eye

7. Pine is to tree as rose is to __________.
leaf stem flower

8. Mom is to child as grandma is to __________.
mother sister grandpa

9. Kitchen is to house as classroom is to __________.
school bedroom playground

10. Shoe is to foot as mitten is to __________.
hat foot hand

NAME____________________

Comprehension

Grades: 3, 4
Tests: 30, 32, 43, 44

## WHAT'S AN ANALOGY

**Skill:** Relationship

**Number of Players:** Small skill group.

**Procedure:** Each sentence on this page, if completed correctly, states an analogy; that is, a likeness in some respect between things that are otherwise different. Choose a word from the box that goes with the underlined word in each sentence in the same way as the first two words go together.

EXAMPLES: DOE is to DEER as mare is to ________. (horse)

lose
fish
wax
hand
down
beef
voices
ankle
words
happy
bite
lake
three
water
aquarium
arrow
flower
sweet
difference
finger

1. DOUBLE is to TWO as triple is to ________.
2. SOLE is to FOOT as palm is to ________.
3. TRAGEDY is to SAD as comedy is to ________.
4. BIRD is to CAGE as fish is to ________.
5. KNIFE is to METAL as candle is to ________.
6. CEDAR is to TREE as violet is to ________.
7. VINEGAR is to SOUR as sugar is to ________.
8. VICTORY is to WIN as defeat is to ________.
9. ADDITION is to SUM as subtraction is to ________.
10. HAND is to WRIST as foot is to ________.
11. WATCH is to WRIST as ring is to ________.
12. ORIOLE is to BIRD as tuna is to ________.
13. GUN is to BULLET as bow is to ________.
14. SKI is to SNOW as swim is to ________.
15. PIG is to HAM as steer is to ________.
16. ASCEND is to UP as descend is to ________.
17. MISSISSIPPI is to RIVER as Erie is to ________.
18. WASP is to STING as mosquito is to ________.
19. BAND is to INSTRUMENTS as chorus is to ________.
20. MATHEMATICS is to NUMBERS as literature is to ________.

NAME____________________

Comprehension

**Skill**: Relationship

Grades: 5, 6
Tests: 44, 57, 58,
59, 60, 61

## WHAT'S AN ANALOGY?

**Procedure**: Each sentence on this page, if completed correctly, states an analogy; that is, a likeness in some respect between things that are otherwise different. Underline the word which correctly completes the analogy.

EXAMPLES:

Cold is to ice as hot is to: fire, burn, match, careful.
Glove is to hand as hat is to: top, head, wear, cap.

1. Wool is to sheep as feathers are to: lions, robins, frogs, pillows.
2. Animal is to horse as tree is to: leaves, oak, earth, grass.
3. Chime is to bell as toot is to: noise, whistle, train, megaphone.
4. Saying is to speaking as fighting is to: honor, boxing, running, anger
5. Ground is to brown as sky is to: bird, blue, clouds, stars.
6. Knead is to dough as stir is to: batter, wind, leaves, move.
7. Cowboy is to horse as pilot is to: fly, plane, air, propeller.
8. Lace is to eyelet as button is to: round, coat, thread, button hole.
9. Tears are to grief as laughter is to: joy, hunger, sorrow, tickle.
10. Glove is to hand as sombrero is to: hat, head, Mexico, serape.
11. Bull is to horn as camel is to: water, hump, desert, oasis.
12. Rug is to floor as blanket is to: bed, wool, sleep, wear.
13. Brave is to knight as sharp is to: deed, sword, armor, dull.
14. Bow is to arrow as gun is to: bullet, target, holster, barrel.
15. Coffee is to bush as apple is to: vine, tree, fruit, cider.
16. Chirp is to cricket as caw is to: giraffe, elephant, crow, owl.
17. Spider is to web as beaver is to: coat, busy, dam, water.
18. Wing is to bird as hoof is to: girl, dog, horse, fox.
19. Football is to kick as baseball is to: game, pass, sport, throw.
20. Nap is to U.S. as siesta is to: patio, Canada, Mexico, rest.
21. Tingle is to feeling as noise is to: chest, hearing, taste, smell.
22. Hammer is to carpenter as bow is to: know, fiddler, bonnet, arrow.
23. Horse is to land as bird is to: feathers, air, nest, migrate.

NAME ____________________

Comprehension

Skill: Relationship

Grades: 5, 6
Tests: 44, 57, 58, 59, 60, 61

## WHAT'S AN ANALOGY?

**Procedure:** Each sentence on this page, if completed correctly, states an analogy; that is, a likeness in some respect between things that are otherwise different. Underline the word which correctly completes the analogy.

EXAMPLES:

Robin is to bird as Ford is to: road, automobile, highway, travel.

Glove is to hand as hat is to: top, head, wear, cap.

1. Pointed is to pyramid as rounded is to: dome, minaret, chimney, spine.
2. Flour is to bread as sugar is to: candy, tortillas, sour, sweet.
3. Canyon is to ditch as cyclone is to: visibility, breeze, voltage, hurricane.
4. Night is to day as dark is to: light, evening, sun, sleep.
5. Peacock is to strut as rabbit is to: animal, hop, bunny, swine.
6. Bed is to cradle as palace is to: sultan, knight, cottage, king.
7. Old is to young as parent is to: sister, child, father, brother.
8. Train is to track as car is to: run, motor, road, wheels.
9. Water is to liquid as iron is to: building, solid, ship, ore.
10. Clock is to minute as ruler is to: king, yardstick, inch, measure.
11. Valve is to hydrant as switch is to: change, lamp, whip, house.
12. Click is to typewriter as rustle is to: buckle, silk, knob, feathers.
13. Hate is to love as pain is to: pleasure, honesty, fake, hurt.
14. River is to creek as tree is to: sapling, target, forest, axe.
15. Marble is to pillar as brick is to: solid, chimney, shelter, cement.
16. Neck is to halter as hoof is to: mule, trample, shoe, leg.
17. Thresh is to wheat as husk is to: corn, berry, potato, harvest.
18. Trout is to fish as oatmeal is to: wheat, cereal, breakfast, peach.
19. Genius is to imbecile as intelligent is to: stupid, talented, bright, behavior.
20. Earth is to mole as water is to: ocean, burrow, fish, drink.
21. Whale is to large as thunder is to: rain, storm, loud, lightning.
22. Ranch is to cattle as plantation is to: city, farm, coffee, country.

Comprehension

**Skill**: Relationship

Grades: 3, 4, 5, 6, 7, 8
Tests: 30, 32, 43, 44,
57, 58, 59, 60, 61

## SORT THE SPORT

**Number of Players**: 1 or 2

**Materials**: Pocketed sorting board. See instructions on page 233.
3" x 5" Word Cards

**Procedure**: Give the child or children the word cards. Have them sort the cards into the appropriately labeled pocket. Some words could be placed in more than one category.

### SORT THE SPORT

**BASEBALL**

fly ball
pitcher
strike 3
bunt
a homer
ball one
double play
foul ball
hits
runs
errors
catcher
batter
batting average
dugout
grounder
World Series
shortstop
man on base
umpire
bases

**BASKETBALL**

goal
free throw
guard
center
forward
the key
dribble
pass
jump ball
back court
foul
backboard
net
hoop
center jump
tripping
division line
gym shoes
Free Throw Line
baskets
Lakers

**GOLF**

fairway
tee
hole in one
ace
course
birdie
irons
woods
hazard
water hole
sand trap
British Open
clubs
putter
grassy course
green
18 holes
Masters
bogie
par
divot

**FOOTBALL**

fumble
offside
guard
tackle
quarterback
touchdown
point after touchdown
safety
forward
pass
rushing
kick off
downs
yard lines
Rose Bowl
back
receiver
10 yards
Super Bowl
safety
touchback

Comprehension

**Skill**: Relationship

Grades: 4, 5, 6, 7, 8
Tests: 43, 44, 57, 58,
59, 60, 61

## WHAT DO YOU THINK?

NAME ____________________

1. "A penny saved is a penny earned."
What does that sentence mean?
_____ If you save money, you will only get pennies.
_____ If you save money, you can be a coin collector.
_____ If you save money, it is as if you had earned it.

2. "If you are careful, the life you save may be your own."
What should the reader do, according to that statement?
_____ Live a long time.
_____ Be careful and save the lives of others.
_____ Realize that if the reader is careless, he/she will endanger his/her life as well as other people's lives.

3. "A stitch in time saves nine."
The statement means:
_____ You should learn to sew.
_____ Fixing something right away will keep it from getting worse.
_____ In time things will get better.

4. "Time heals all wounds."
This probably means:
_____ Your cuts and bruises will get better.
_____ We need to learn first aid.
_____ We will forget about the things that have hurt us after awhile.

5. "The early bird gets the worms."
This tells us:
_____ If we do something right away, it will work out better for us.
_____ Birds get up early.
_____ Worms are good to eat.

6. The lumberjack stepped back from the tree as it started to fall and ______________.

_____ ran away.
_____ hit the tree again.
_____ sharpened his ax.
_____ yelled "timber."

7. The rain had been falling for hours when a cold north wind started to blow. The rain ______________.

_____ stopped.
_____ turned to ice
_____ melted.
_____ caused a flood.

8. Johnny walked through the thick brush to get to his house. Days later, he discovered that:

_____ he had poison oak.
_____ he had a snake bite.
_____ he was lost.
_____ he was hungry.

9. The children saw a jagged flash of lightning across the sky. They knew they would soon hear:

_____ a horn.
_____ yelling.
_____ thunder.
_____ a policeman.

10 The Brown family was out on the lake in their boat. All was quiet until Johnny yelled:

_____ "I caught a fish."
_____ "I'm sleepy."
_____ "I want to go to school."
_____ "I see a pretty cloud."

Comprehension

Skill: Relationship

Grades: 3, 4, 5, 6
Tests: 6, 7, 10, 16, 21,
27, 30, 32, 43, 44,
57, 58, 59, 60, 6

## MAKE THE CONNECTION

**Number of Players**: 2 to 4

**Materials**: None

**Procedure**: One player says a word. The next player gives a word associated with the previous word. Each player in turn gives a word associated with the last word given. The following example should be discussed with the students before the activity proceeds.

Example: Player 1: Big

Player 2: giant
Player 3: beanstalk
Player 4: garden
Player 1: weeds
Player 2: pull

Etc. Continue as time permits.

All responses may be written or taped for later reference.

Comprehension

Skill: Relationship

Grades: 3,4,5,6
Tests: 32,43,44,57,
58,59,60,61

## DETECTIVE

Number of Players: Partners

Materials: Stories such as the example below using pronouns with at least five pronouns underlined, five to ten 9" x 12" pieces of colored tagboard, a story for each piece.

Procedure: Mount the story and questions which refer to it on the colored tagboard. Laminate.

SAMPLE:

Read the story. Match the numbers in the story with the numbers in questions below. Write the name of the person, place, or thing to which the pronoun refers. Check your answers with answers on the back of the colored tagboard.

Maria saw the cookie jar on the counter. She ① wanted a cookie.

Father said, "Will you ② eat your ③ dinner if I ④ let you ⑤ have one?"

1. She refers to ______________________.
2. you refers to ______________________.
3. your refers to ______________________.
4. I refers to ______________________.
5. you refers to ______________________.

Comprehension

Grades: 5, 6
Tests: 43, 44, 57,
58, 59, 60, 61

Skill: Relationship

## WHAT IS MISSING?

Number of Players: 3 or 4

Materials: Open-ended game board pages 253 - 268, markers and spinner or dice, answer card, sentence strips with the following words on them.

Procedure: Place phrase cards with the open-ended gameboard. See instructions for open-ended game, page 251.

Red, white and ____________. (blue)
Sun, moon and ____________. (stars)
Ready, set, ____________. (go)
Tom, Dick and ____________. (Harry)
Hook, line and ____________. (sinker)
Man, woman and ____________. (child)
Stop, look and ____________. (listen)
Lock, stock and ____________. (barrel)
Healthy, wealthy and ____________. (wise)
Hop, skip and ____________. (jump)
Reading, writing and ____________. (arithmetic)
Faith, hope and ____________. (charity)
Morning, noon and ____________. (night)
Knife, fork and ____________. (spoon)
Ear, nose and ____________. (throat)
Ready, willing and ____________. (able)

Variations: 1. May be used on pairs of cards as a concentration game. See instructions on page 231.

Examples:

| | |
|---|---|
| red, white and | blue |
| ready, set, | go |

2. May be used on pairs of cards, as per above examples for Lucky 8. See instructions on page 248.

Grades: All
Tests: All

## RIDDLES

There are many ways to use riddles for helping students make inferences. They may be descriptive riddles or joke type riddles. It is important that the two types of riddles are not mixed in one activity for the younger students. It is confusing to the student if they are trying to find a "play on words" in a simple description.

Any riddle or joke book is a good resource for material. For young students oral descriptions of familiar objects is an excellent way to start. After the students have had many opportunities to find the inference, encourage them to devise riddles of their own.

For Tests 16, 21, 27, 30, 32, 43, 44, 57, 58, 59, 60, 61:

Number of Players: 1 or 2

Materials: Two 14" x 20" piece of colored tagboard.
Eighteen library book pockets.
Eighteen 3" x 5" cards.
One task card

Procedure: Build a folding board center (see page 271) using the large pieces of colored tagboard. Attach library book pockets to the tagboard. Write a riddle on each of 17 pockets. Write the answer to each riddle on a 3" x 5" card. One pocket may be used to store the answer cards. One student reads the riddle. The other finds the appropriate answer card and places the card in the riddle pocket. (Self-checking is possible if the pockets are numbered and the corresponding numbers are written on the backs of the answer cards.)

### TASK CARD

1. Read the riddles on the pockets.
2. Find the answers in the answer card pocket.
3. Put the answer cards in the right pockets.
4. Check your work by seeing that the number on the pocket, and the number on the back of the answer card match

Variations:

1. Put riddles on posters in one part of the room. Write the answers on sentence strips and scatter them on walls around the room. Students must find the matching answer for the riddle.
2. Display one challenging riddle each day. Have students write answers on a small piece of paper and put them in a closed box or envelope. Each morning post the correct answer and the names of the "Super Sleuths".

## SAMPLE RIDDLES

I am soft.
I am furry.
I say meow.

What am I? (cat)

I am round.
I am silver.
I am the smallest coin.

What am I? (dime)

I am a big animal.
I like honey.
Sometimes I am all brown.

What am I? (a bear)

I am round.
You can play with me.
I am small.

What am I? (a ball)

I have a lot of sand.
There are waves on me.
The sun makes me hot.

What am I? (the beach)

I can go in the sky.
I have two feet.
I can do something you
can't do.

What am I? (a bird)

I am delicious.
I am green on the outside
and red on the inside.

What am I? (watermelon)

I am a bird.
I peck holes in trees
to find insects to eat.

What am I? (woodpecker)

I am made of glass.
I keep the wind out and
let sunshine in.
You can open and close me.

What am I? (window)

I help you tell time.
You can wear me on
your wrist.

What am I? (watch)

I am pulled by a fast boat.
I hold on to a rope.
I have skis on my feet.

What am I? (water-skier)

I am in this room.
I help you keep the room
neat.
You throw your papers away
in me.

What am I? (wastepaper
basket)

I am sometimes straight.
I am sometimes curly.
I come in different colors.
I am made of hair.

What am I? (wig)

I am part of a room.
I am between the ceiling
and the floor.
I may have windows or
doors in me.

What am I? (wall)

I take you to far away
places.
I am fun.
I have stories in me.

What am I? (a book)

What does a person usually grow in a garden if he works hard? (tired)

What did Paul Revere say at the end of his ride? (Whoa)

What runs from California to Colorado without moving? (railroad tracks)

Take away my first letter; take away my second letter; take away all my letters, and I remain the same. What am I? (mailman)

Riddles (Con't)

How did you know the rocket lost its job? (It got fired)

What newspaper did the caveman have? (prehistoric times)

Why is money like a secret? (They are both hard to keep)

What has holes in it but can hold water? (sponge)

When is an egg like a losing team? (When it's been beaten)

Why did the boy's mother call him Sonny? (because he was so bright)

What kind of animals live at the North Pole? (cold ones)

If a dog loses his tail, where can he go to replace it? (a retail store)

What is black and yellow and goes "zzub, zzub"? (a bee flying backwards)

Why did the house call the doctor? (it had a window pane)

What kind of dog has no tail? (a hot dog)

What always has an eye open but never sees anything? (a needle)

What's the best way to catch a squirrel? (climb a tree and act like a nut)

Why can't a bike stand up by itself? (it's two tired)

Why did a mother knit her son three socks? (he had grown another foot)

Comprehension

Skill: Inference

Grades: All
Tests: 6, 7, 10, 16, 21, 27

## WHO IS IT?

Number of Players: Small group or whole class

Materials: Chalkboard

Procedure: For Tests 16, 21, 27 the teacher writes a short description of a child in the class, or writes something about a child in the reading group. The children read the message to see if it is about them. The vocabulary should be appropriate to the reading level of the group.

Example: I see a boy who has brown eyes. His hair is black.
He is wearing a T-shirt with red and white stripes.
He likes to play baseball. His name is ______________.

The child that the teacher has written about, goes to the chalkboard and writes his name on the blank line.

Note: After the students have had experience with this activity, have them write their own riddles.

For Tests 6, 7 or 10 the teacher and children can do the same activity orally.

Comprehension

Grades: 1, 2
Tests: 6, 7, 10, 16, 21, 27

Skill: Inference

NAME________________________________

Procedure: For Tests 10, 16, 21, 27 use the following exercise on task cards or mount copies of the exercises on tagboard and laminate them for use with a plastic marker.

For Tests 6 and 7 read the stories orally and have the children respond orally.

The teacher thought that the schoolroom was getting too hot. She knew that the boys and girls couldn't work well in a hot room.

What did the teacher do?

A. She got some ice.
B. She opened a window.
C. She locked the door.

Mother asked Jan to get some milk for her.

She said Jan could take somebody along with her.

Jan said she would go alone.

What did Jan say she would do?

A. go by herself
B. take somebody with her

(Cont.)

Bob said, "I must get something today for Jill's birthday."

He saw a toy kangaroo and a top that Jill would like. Bob had as much money as he needed to get the top. He did not have as much as he needed to get the toy kangaroo.

What do you think Bob got for Jill?

A. He didn't get anything.
B. He got the toy kangaroo.
C. He got the top.

Tommy had a bad cold and couldn't go out to play. He could hear the other boys and girls out playing. He wanted to watch them, but he couldn't. The window was too far from his bed.

His mother pushed his bed up to the window. Then what did Tommy do?

A. He looked out at the girls and boys.
B. He went to bed.
C. He went outdoors to play.

Comprehension

Grades: 2, 3, 4, 5, 6, 7,
Tests: 6, 7, 10, 16, 21,
27, 30, 32, 43, 44,
57, 58, 59, 60, 61

Skill: Inference

## HELPING KIDS MAKE INFERENCES

Number of Players: Small skill group or whole class

Materials: 9" x 12" or 12" x 18" piece of paper, and a pencil or crayons for each student.

Procedure: Children need many opportunities to draw inferences and to sharpen visual imagery. Reading a story and having pupils visualize the images helps to reinforce comprehension skills.

Have each child fold a sheet of drawing paper in half. The child then opens the paper and folds it in half again the other way. Have the children number the resulting boxes 1 to 4, then turn the paper over and number the boxes 5 to 8.

Tell the group that a story will be read. At various points, the story will be stopped and they will be asked to draw a picture based on given information. Each student will need to think about what has been heard to help decide what to draw. Ideas here are more important than the art. A sketch will do.

*(Students should put down pencils or crayons when they have finished with each sketch so the teacher will know when to continue with the activity.)*

You have never met me, so I'm going to tell you all about me.

I am not very big, but I'm very active. I have a father and a mother. I have many sisters, brothers, cousins, aunts and uncles.

Are you wondering what I look like? Use your imagination. Draw a picture of me in box one. *(Pause)*

After you have heard more of the story, you may change your mind about the way I look.

I have a home. It is a most intriguing home. It is very cool and comfortable. My large family and I have plenty of - how do YOU say it? Oh yes, elbow room. We have plenty of elbow room.

Do you know what my home looks like? Keep thinking.

Someday you, your mother, father, sisters, brothers, cousins, aunts and uncles may come to visit me. There will be plenty of room for all of you. Why not bring the neighbors? Bring all your school friends, too.

(cont.)

I have heard that someday you and your friends may decide to live in my home. We will not be crowded. But be sure to bring your own oxygen.

Now, do you know where I live? Be careful. Think about what you have heard. In box two, draw a picture of my home. (Pause)

Did you make your best guess?

I like to play games. Tag is one of my favorite games. My favorite sport is swimming. It seems to me I've been swimming all my life.

In box three, draw a picture of the way you think I look. (Pause)

What is your favorite game? What is your favorite sport?

I am sometimes in a school with other girls and boys. My school is quite different from yours. Most of the time we just swim and play tag. Would you like to be in a school like that?

In box four, draw a picture of my school. (Pause)

Do you know me now? Keep thinking.

Some plants are very important to me. In fact, I happen to know you use one of the same plants I use. You eat it in ice cream. Do you know the name of the plant we both use?

Now, turn your paper over and write the name of the plant in box five, and draw a picture of it. (Pause)

I'll tell you the name of the food. It's name is KELP, K-e-l-p. Kelp is a plant. It helps to make ice cream so-o-o smooth. Kelp grows at the bottom of the sea where I live. Have you again changed your mind about the way I look?

Draw my picture in box six. (Pause)

Did you draw a picture of a fish? That's right. My name is Mark Edward, and I'm a fish.

In the last boxes, draw a picture of me swimming and playing tag in my school. You may draw some kelp, too.

(Cont.)

When all the children have finished their boxes, go back to the beginning of the story and let them discuss what they drew in box one. Almost anything could have been drawn except someone known to the student. (Some will draw their teacher or friends.) Replay the tape or reread the first part to show why it could not have been someone known by the student. It may take more than one rereading of that part for all to realize that it is someone they have never met. (An elephant wouldn't be a very good guess here, either.)

Take careful note of what the children draw in box two. Drawing a space home shows making better use of given information than drawing a regular house. Discuss this. Work through the entire story in this way. Much fun can be had with this exercise, and no student should feel inadequate.

If you feel you have several children who will have real difficulty or are very reluctant about putting their own ideas on paper, divide the group into small heterogeneous groups. This will enable them to discuss their ideas before drawing their pictures.

Adapted from
Jenevie Sharknas
Instructor Magazine
March 1976

Comprehension

Grades: 2, 3, 4, 5, 6
Tests: All

Skill: Inference

## WHO AM I?

Materials: 9" x 12" or 12" x 18" piece of paper, and a pencil or crayons for each student

Procedure: Have each child fold a sheet of drawing paper in half. The child then opens the paper and folds it in half again the other way. Have the child number the resulting boxes 1 to 4, then turn the paper over and number the boxes 5 to 8.

Tell the group you are going to read a story. At various points you will stop and ask them to draw a picture based on given information. Each child will need to think about what has been heard to help the child decide what to draw. Ideas here are more important than the art. A sketch will do.

*(Students should put down pencils or crayons when they have finished with each sketch so the teacher will know when to continue with the activity.)*

You and I do not know each other, but I'm very anxious that we get acquainted. Even though we have never met, I'd like you to know that my family has been doing many nice things for you and your family for years.

My name is Tina. I was given the name of Tina because I was my mother's smallest baby. In fact, I think I was the smallest baby born to my immediate family.

I do not have any teeth. I'm just a baby. I stay close to my mother and she takes good care of me. Sometimes I'm a little naughty and then my mother gives me a spanking.

Do you know what I look like? Draw my picture in box one. *(Pause)*

Later, after you receive more information, you may change your mind about the way I look.

My mother is larger than my father. This is common in my family. The males are always smaller than the females and we all have brown eyes. We travel a lot. In fact, we travel long distances every year.

My family and I are big eaters. We especially like small plants and animals, and we eat tons of them every day.

Do you know what I look like now? Draw a picture of my mother, father, and me as we are traveling. Use box two. *(Pause)*

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(Con't.)

Some of my relatives are "clowns". Not real clowns of course, but they do enjoy clowning. My family and I are good in the sport of diving and swimming.

I understand that you and members of your family have visited my home often, but none of you live here, at least not yet.

Draw a picture of you and your family visiting in my home. Use box three. (*Pause*).

At the beginning of this story I told you my family has been doing many nice things for you and your family for years. From us you have gotten oil for oiling machinery.

One of my relatives provides spermaceti. You use it to make the very best candles. My relative also has ambergris. It is used in perfumes to make the fragrance last. From us you also get vitamins so that you can be healthy.

Do you know me now? Draw my picture in box four. (*Pause*).

I can swim in the ocean and the salty water doesn't bother my eyes at all. That is because I "cry greasy tears" that keep the saltwater from stinging my eyes.

I am a great diver and usually I stay under water for as long as one hour. That is really amazing -- don't you think? Because you see, I'm a mammal, and I breathe with lungs.

A group of my friends and family is called a school or pod. In box five draw a picture of me in a school or pod. (*Pause*).

I can also eat my meals underwater. This is because of my special throat. It opens directly to my intestines and not to my lungs. My one nostril, which is on top of my head, leads directly to my lungs. I do not have external ears -- just holes for ears, but I have a keen sense of hearing.

In box six draw my picture as I look after I come up from a deep dive. (*Pause*).

In the beginning of the story I told you I was my mother's smallest baby. Now I want to tell you that I also was one of the world's largest babies ever to be born. In fact I was about 21 feet long and weighed over 13,000 pounds. Did you know that members of my family were larger than the largest dinosaurs? We are the largest animals ever to live on earth.

Our scientific name means "little mouse." Isn't "little mouse," a funny name for the world's largest animal? Yet a little

(Con't.)

mouse is probably safer in this world than my large relatives and me. My family is in danger of becoming extinct. Won't you please think about that? In box seven draw a picture of my relatives the way you think they may look when they lived on land. (*Pause*).

I told you that I did not have teeth and that I'm just a baby. Well now I want you to know that I will never have teeth. I belong to a group called the baleen (bəlēn') group.

In box eight draw me and color me as you think I am. (*Pause*).

Did you draw a picture of a baby blue whale? My nickname is Baby Blue but my real name is Tine S. Musculus. My last name means "little mouse."

Remember to tell people that we are in danger of becoming extinct or you and I may never get to talk to each other again.

Students can write clues about themselves. Collect and read several of them to see if others can guess who is being described. Put all the clues into a Who Am I? booklet for the library table. As a follow-up have groups write other clue stories from which the rest of the class may make inferences.

If a group of children will have difficulty or are very reluctant about putting their ideas on paper, divide the group into small heterogeneous groups. This will enable them to discuss their ideas before drawing their pictures.

Adapted from
Jenevie Sharknas
Instructor Magazine
March, 1976

Comprehension

Grades: 3, 4, 5, 6
Tests: 30, 32, 43, 44, 57

Skill: Inference

NAME ____________________

Procedure: On each part of the page read the sentences. Then answer the question by underlining yes or no.

The football team ran onto the field in their new blue-and-white suits, and the crowd started to applaud. Was the crowd pleased when it saw the players?

Yes No

The power company would not allow people near the poles and wires on its land. Did the power company keep people away from its poles and wires?

Yes No

Linda said, "Nine paper stars are in this box, but where did I mislay the other star?" Did Linda remember where she had put the other star?

Yes No

When a dog ran out into the traffic, Mr. Rogers stopped his car suddenly to avoid hitting it. Did Mr. Rogers try to keep his car from hitting the dog?

Yes No

Jane hoped to obtain the autograph of the TV star who was riding on a white horse in the parade. Did Jane want to throw away the star's autograph?

Yes No

Jill whispered to Susan, "Mother is resting. We had better talk quietly so our voices won't annoy her." Did Jill think her mother would like it if she and Susan talked loudly?

Yes No

After Steve saw that Billy's cowboy suit was too big for him, he decided to withdraw his offer to buy it. Did Steve decide to take back his offer?

Yes No

The weathermen kept track of the amount of snow that fell throughout the snowstorm. Did the weathermen keep track of how much snow fell?

Yes No

The Scout leader was worried that the boys would not arrive at the camp before darkness fell. Did the leader want the boys to stay away from the campgrounds?

Yes NO

Miss Lake was not sure what Bob had said, so she asked him to repeat his answer. Did Miss Lake ask Bob to say his answer again?

Yes No

Comprehension

Skill: Inference

Grades: 2, 3, 4, 5, 6
Test: 27, 30, 32, 43, 44, 57

## CAUSE AND EFFECT MATCH

Number of Players: 2

Materials: Tagboard - 8 pieces of 2" by various lengths according to length of sentences (red)
8 pieces of 2" by various lengths according to length of sentences (green)
Task Card of Instructions.

Procedure: Copy the following sentences on the red strips.

Clouds covered the mountains.
The soup was too hot.
The car ran over a nail.
It has been raining a lot.
The children studied hard for the test.
The wind blew hard last night.
They forgot to wipe their feet on the mat.
School is over.

Copy the following sentences on the green strips.

We could not see the climbers.
The boy burned his mouth.
The tire is flat.
The lake is very high.
Many children received high grades.
Several trees are down.
The floor is all muddy.
Children are going home.

### TASK CARDS

1. Separate the cards into two piles. The green cards are the effect cards and the red cards are the cause of the effect.
2. Pick an effect card and find the cause of the effect.
3. After you have matched all the cards, have someone check your work.

Note: Cards should be made self-correcting by marking the back with a coding system.

Note: This activity is excellent for a reinforcement center. See page 269.

Comprehension

Grades: 2, 3, 4, 5, 6
Tests: 6, 7, 10, 16, 21, 27, 30, 32, 43, 44, 57

Skill: Inference

## WHAT'S HAPPENING HERE?

Procedure: Some common situations are described below. Decide what you might infer from each situation, and write your inference in the space provided.

1. You are babysitting and the one-year old child keeps making noises. She has just had a nap and is hot. Suddenly, she goes to the kitchen and points to a cup.

____________________________________________

____________________________________________

2. You wake up because it seems light. You smell food cooking in the kitchen and hear people's voices.

____________________________________________

____________________________________________

3. There is a lot of cleaning going on at Carlos' house. Carlos' dad is painting the trim and washing the windows, and his mother is cleaning the carpets. Then you see a well-dressed man putting up a sign in their yard.

____________________________________________

____________________________________________

Although it was possible to make a reasonable guess about what might have been happening in each situation described above, other inferences might also be reasonable. Consider the inferences listed below, and place a check mark after each inference that seems fairly reasonable.

1. _____ The baby is afraid of the dog.
   _____ She is sleepy.
   _____ She wants a small plastic rattle which is inside the cup.

2. _____ You were having a dream.
   _____ Your parents are having a party.
   _____ Some strangers have entered your house.

3. _____ Carlos' family is having a rally for a political candidate.
   _____ Carlos' house is going to be torn down.
   _____ Carlos' home has been chosen for a house tour.

Note: This exercise may be given orally for Tests 6, 7, 10, 16.

**Skill:** Inference

Tests: 27, 30, 32, 43, 44, 57.

NAME ____________________________________

## THE PRESENT

The box above contains a present for a young child. Make a guess about which of the statements below could be true. Put a check by each statement that could be true.

1. ____ The box contains a canoe.
2. ____ The box contains skis.
3. ____ The box contains a fishing rod.
4. ____ The box contains a pogo stick.
5. ____ The box contains an electric train.
6. ____ The box contains a set of stilts.

Suppose you learn that the present in the box is usually used outdoors. Put a check by each statement that could be true.

1. ____ The box contains a canoe.
2. ____ The box contains a fishing rod.
3. ____ The box contains a pogo stick.
4. ____ The box contains a set of stilts.

Suppose you learn that the present in the box travels on the ground. Put a check by each statement that could be true.

1. ____ The box contains a canoe.
2. ____ The box contains a fishing rod.
3. ____ The box contains a set of stilts.
4. ____ The box contains a pogo stick.

Suppose you finally learn that the present in the box is used to bounce along touching the ground at intervals. Put a check by each statement that could be true.

1. ____ The box contains a set of stilts.
2. ____ The box contains a pogo stick.

Comprehension

**Skill**: Main Idea

Grades: All
Tests: 10, 16, 21, 27,
30, 32, 43, 44,
58, 59, 60, 61

## TEASING TITLES

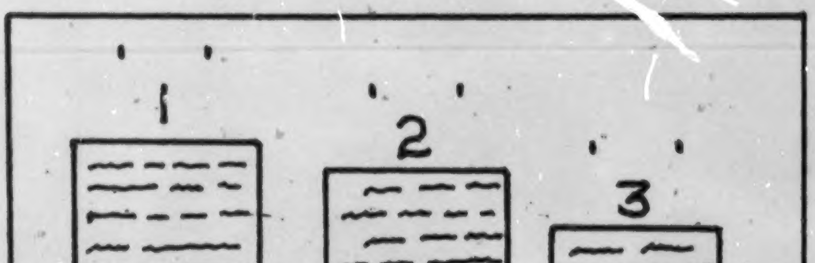
**Number of Players**: Partners

**Materials**: One piece of 11" x 14" colored tagboard, card holder (library pocket, if available); four or five short stories; a set of titles printed on cards 1½" x 2". Laminate or use contact paper for durability.

**Procedure**: Tape or glue short stories on the tagboard, leaving enough room to place titles above. Place card holder on lower right hand corner after printing the directions. Make a slot above each story so child may insert the title card. To make the activity self-correcting, write the number of the story on the back of each title card.

**Task Card**

Read the stories--Read the titles. There may be more than one title to go with a story. There may not be a title for a story. Choose the best title and put it above a story. Check your choice by looking on the back of the title card.



Comprehension

Grades: All
Tests: 6, 7, 10, 16, 21, 27, 30, 32, 43, 44, 57, 58, 59, 60, 61

**Skill**: Main Idea

## CAPTIONS

**Number of Players**: Small skill group

**Materials**: Tagboard, large pictures from old books or magazines.

**Procedure**: Select five or six pictures from an old preprimer, simple book for young children, newspapers or magazines. Paste them on tagboard. Laminate for durability. Display the pictures in various places around the room. Write a descriptive sentence about each on a separate card. Ask pupils to match the sentence card with the picture it tells about. Captions for appropriate pictures might be:

1. A boy is playing ball.
2. Three boys and three girls are playing ball.
3. The girls are playing on the climbing bars.
4. Daddy is looking at the children.
5. The dog is running.

Comprehension

Grades: 2, 3, 4, 5, 6
Tests: 27, 30, 32, 43, 44, 57

**Skill**: Main Idea

## TELEGRAMS

**Number of Players**: Small skill group

**Materials**: Paragraphs from newspaper articles or other appropriate material.

**Procedure**: Have each pupil read a paragraph or other selection. Ask each pupil to restate the main idea of the paragraph in the form of a telegram that uses as few words as possible. Urge pupils to write telegrams (at $.50 per word) that cost as little as possible but still state the message of the paragraph.

**SAMPLE**:

San Francisco (AP)—Gasoline continues in adequate supply and availability in northern California area at the height of the summer vacation season, the San Francisco Auto Club said Saturday.

Telegram: Adequate gas supply in San Francisco area (cost—$3.50)

For a variation of this activity, suggest that pupils write a new headline for a newspaper article.

Comprehension

**Skill**: Main Idea

Grades: All
Tests: 6, 7, 10, 16, 21, 27, 30, 32

## MATCH UP

**Number of Players**: Small skill group

**Materials**: Pictures
Phrase cards which describe the pictures.

**Procedure**: Pictures are placed around the room. Pupils are given phrase cards. They must match the cards to the pictures.

Comprehension

Grades: 1, 2
Tests: 6, 7, 10

**Skill**: Making Judgments

NAME ____________________________

## WHAT CAN YOU DO?

*Have students underline the appropriate statements.*

1. What can Jill see?

something to eat
not well
her dad
a red car
it was here
a little boy
a big dog
can't stay here

2. What can Cliff do?

eat cake
jump up and down
be a school
a zoo
play with his pet
go to school
then stay with
look at something

3. What can go?

a dog
not here
is a pet
a cat
a kangaroo
a red car
was a zoo
this is big

Comprehension

Skill: Making Judgments

Grades: 4, 5, 6
Tests: 43, 44, 57, 58, 59, 60, 61

## DOES IT MAKE SENSE?

Number of Players: Small skill group

Procedure: Make work sheets or task cards in which there are extra sentences or words which do not belong. Have students cross out the extra sentence or word.

Use any paragraph from the text of appropriate reading level material. Insert one sentence that does not make sense.

Alert children to investigate the material carefully when something does not make sense to them.

EXAMPLE:

COMPREHENDING - Which sentence does not fit?

1. The yelling increased in tempo, and the beat of a drum sounded in the background. The dancing became wilder. They paid no attention to Nils. The baby would soon be there. All their energies were given over to their dance and to something which seemed to be behind him. Nils craned his neck, but all he could see was the fire blazing at his back.

2. There were no gas stations, but gasoline was sold at some bicycle repair shops and even a few blacksmith shops. The careful driver carried his own reserve. The wheel would drop into such a hole with a shocking jolt. The experienced driver also learned that emergency fuel could come from the always-present oil side lamps. If there was enough gasoline to start the engine, then the kerosene from the lamps could be poured into the tank, and the engine would function again - after a fashion.

3. When Jack heard that his Uncle Jim was home for a short visit, it seemed that his joy was complete. More than anything else, he wanted his great relative to see his victory. As soon as school was out, he hurried to his uncle's home. Then he watched the rainbow with its many colors.

Note: For young children, you may wish to adapt this activity using one extra word in a sentence, rather than one extra sentence in a paragraph.

Comprehension

Skill: Making Judgments

Grades: All
Tests: 6, 7, 10, 16, 21, 27, 30, 32, 43, 44, 57, 58, 59, 60, 61

## LISTENING TO A STORY

Procedure: After reading a story to the class about a child with strong personal characteristics (such as the *Story About Homer Price* by Robert McCloskey), have each child write his reasons for wanting (or not wanting) Homer Price as a friend.

A partial list of other characters and stories are:

| | | |
|---|---|---|
| Pippi | *Pippi Longstocking* | Lindgren |
| Ramona | *Ramona The Pest* | Cleary |
| Tom | *The Adventures of Tom Sawyer* | Twain |
| Alice | *Alice in Wonderland* | Carroll |
| Jo | *Little Women* | Alcott |
| Peter | *Peter Pan* | Barrie |
| Pinocchio | *Pinocchio* | Collodi |
| Dorothy | *The Wizard of Oz* | Baum |
| Caddie | *Caddie Woodlawn* | Brink |
| Jenny | *The Trouble With Jenny's Ear* | Butterworth |
| Katie | *Katie John* | Calhoun |
| Ellen | *Ellen Tebbits* | Cleary |
| Otis | *Otis Spotford* | Cleary |
| Dorrie | *Dorrie and the Witch Doctor* | Coombs |
| Charlie | *Charlie and the Chocolate Factory* | Dahl |
| Harriet | *Harriet The Spy* | Fitzhugh |

Comprehension

Grades: 4, 5, 6, 7, 8
Tests: 43, 44, 57, 58, 59, 60, 61

Skill: Making Judgments

## CAUTION!

Number of Players: Small skill group

Materials: Magazine or newspaper articles and advertisements which contain examples of false claims, exaggerated or omitted facts, glittering generalities, emotionalism, catch phrases and other such devices.

One large sheet of colored tagboard per group. Scissors, glue, one or two magic markers, construction paper (optional).

Procedure: Explain to children that the best way to persuade a person is to present all the facts as honestly as possible, but sometimes writers use less acceptable devices such as the ones listed above under "Materials" in order to influence or persuade readers. Explain these various devices and show examples that you have clipped from newspapers and magazines.

Over a period of time encourage children to look for examples and bring them to school. Keep them in a folder until they have collected enough for several posters. Then have children, in groups, make posters to display the examples. Glue the advertisements and articles on posterboard. Draw attention to the "offenders" by circling them with a bright-colored magic marker. Let children think of an appropriate heading for the poster such as Caution!, Letters for the heading can be cut from construction paper or they can be applied directly to the poster with a magic marker.

Comprehension

Skill: Making Judgments

Grades: 4, 5, 6, 7, 8
Tests: 30, 32, 43,
44, 57, 58,
59, 60, 61

## FACT OR OPINION

Number of Players: Small skill group

Procedure: Give each pupil a sheet on which the following statements have been printed. Discuss each statement with them to decide whether the statement is Fact or Opinion.

a. Mr. George Brown, a farmer, said that all commercial planes should not travel faster than 300 miles per hour.

b. A candidate for Congress recently indicated that unemployment in the United States was at an all time high.

c. The best news is broadcast on radio station BLAB.

d. A recent survey indicated that FIZ was the most popular of all soft drinks now on the market.

e. Buy a Timeright watch - it's later than you think.

f. The leading cause of automobile wrecks in the United States is excessive speed.

g. Brazil has a higher population than France according to Knowitall Encyclopedia.

h. A number of leading citizens from X Country have been convicted for committing serious crimes in this country. Americans would do well to avoid visiting X Country in the future.

i. The most beautiful place in Kansas is the Medicine Lodge Peace Treaty Grounds.

j. Every family should have a pet.

k. Social Studies is easier than math.

l. We had 1.5 inches of rain yesterday.

m. San Diego is the most beautiful city in the world.

n. An acre of land contains 43,560 square feet.

Note: These statements may be typed onto cards for an open-ended game. See instructions for open-ended games page 251 . The statements may also be sorted into Fact or Opinion envelopes for a sorting board game. See page 233.

Skill: Making Judgments

## READING INTERESTS INVESTIGATORS

Number of Players: Small skill group

Materials: The materials needed for this activity will vary from pencil and paper to art supplies depending upon the investigation.

Time: While these activities require little teacher time, they do demand time from individual children for a long period of four to six weeks.

Procedure: Children engage in decision-making and problem-solving processes developed around comprehensive areas of: statement of the problem, procedure, presentation of the findings, summary, and conclusions. Questions such as the following may be posed to the group: How will the problem of the investigation be stated? Which group(s) of adults (teachers, parents, others) will be included? How will the investigative questions be presented? What recording forms are needed? Will or how will interests data be compared to other groups (adult groups or children's groups)? How will data be summarized? Will conclusions be drawn? When these decisions have been made within the classroom setting with teacher consultation, children choose to participate in special work groups identified and the investigation is carried out as an independent activity.

Possible topics for initial investigations with identified populations are:

1. Rate certain books according to your personal appeal. Compare and contrast the ratings of the books by different populations, such as age groups, teacher/parents, adults/children, etc.
2. Classify specified books according to agreed-upon categories.
3. Indicate the number of books read per year. These may be compared and contrasted as in item (1).
4. Indicate the number of books read per year and type the book as to fiction or non-fiction (or other types appropriate for the population).
5. Indicate the title(s) of favorite books.

Note: Conduct a survey of potential participants and have them sign up if they wish to be included in order to prevent early frustration and disappointment by the investigators when they are turned down. Some presentation and discussion needs to be planned. Although children work in one or more areas of the investigation, it is important that they have opportunities to know the complete process and its results.

After this initial experience, some children may form small groups, submit their own proposed investigation, and then carry it out. For example: What will be the characteristics of public schools when I graduate in five or six years? How will the energy crunch affect the operation of our school system?

Structural Analysis

Grades: All
Test: 13

**Skill**: Alphabetizing

## FILL IN

**Number of Players**: Individual or partners

**Materials**: Twenty-four 6" sentence strip cards, plastic marking pencil

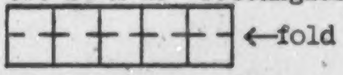
**Procedure**: On each card, write a short sequence of the alphabet with some letters replaced by blanks. For example, - m n - - - b - d -. Laminate or cover with clear contact. The child fills in the missing letters in the sequence on each card.

## WHAT IS MISSING

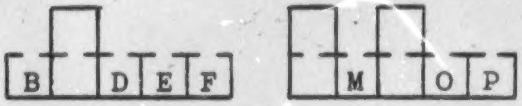
**Number of Players**: Individual or partners

**Materials**: Ten pieces of colored tagboard 4" x 10", fifty 2" x 2" colored tagboard cards

**Procedure**: Fold the 4" x 10" piece of tagboard to make two 2" x 10" rectangles. Using a ruler, draw a line every two inches as shown



Copy letters on the tagboard pieces



Cut out the squares that would cover the letters if folded over. On the back of the blank letter spaces copy the letter that has been omitted so that if it is folded over it will show the correct letter.

The student should find the missing letters from the extra 2" x 2" letter cards and place them in the blank spaces on the large cards. To check the answers, the student may fold the square down to see if it matches.

## OPEN-ENDED GAME

**Number of Players**:

**Materials**: Open-ended game board, pages 253-268. Twenty 3" x 5" cards, one 5" x 8" answer card.

**Procedure**: On each card write a short sequence of letters with one letter replaced by a blank. For example

- n o   g - i   r s -

Laminate or cover each card with clear contact paper. The student says what letter is missing in the sequence on each card. See instructions for open-ended games, page 251.

Structural Analysis
Grades: All
Tests: 13, 41, 49

Skill: Alphabetizing

## IN WHICH ORDER

Number of Players: Small skill group or whole class

Materials: 5" x 8" cards (one for each student in the class)

Procedure: Have each student in class write his name on a card. Put the finished cards in a box or stack. Have students alphabetize the names. If you have students write the names after they are alphabetized, you take them from the concrete process to the writing process.

Variation 1: Have students alphabetize the stories in their readers.

Variation 2: Have students alphabetize the authors of stories in their readers.

Variation 3: Have students use their imagination to write an alphabetical story. Start the first sentence with an A, the next sentence with a B and continue until you have written a story using each letter of the alphabet.

Variation 4: Choose several students and have them come up to the front of the class and arrange themselves in alphabetical order.

Variation 5: Have students look in a dictionary and find four words they can alphabetize to the third or to the fourth letter.

## BEFORE OR AFTER

Number of Players: Individual or partners

Materials: Open-ended gameboard, pages 253 - 268. Twenty 3" x 5" cards, one 5" x 8" answer card.

Procedure: See instructions for open-ended game, page 251.

1. "Where would you look for the word joke?"
   — before the word hose
   — after the word hose

2. "Where would you find the word face?"
   — before the word freckle
   — after the word freckle

3. "Where would you look for the word telegraph?"
   — before the word telephone
   — after the word telephone

Note: Choose the appropriate degree of difficulty for the test number.

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Structural Analysis

Grades: All
Tests: 13, 41

Skill: Alphabetizing

## FIND THE LETTERS

Number of Players: Individual or partners

Materials: Two pieces of colored tagboard or poster board 4" x 9",
Fifty-two 1" x 1" tagboard cards

Procedure: Print the upper and lower case letters of the alphabet on the 1" x 1" pieces of colored tagboard. Leave a one inch margin at the top for a title. Use a ruler to mark twenty-seven 1" squares. Print upper case letters in alphabetical order on one board and lower case letters in alphabetical order on the other. Leave many blank spaces.

| FIND THE LETTERS | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| A | B | | | E | | | H | |
| | K | | | N | | P | | |
| S | | U | | W | | | | ☺ |

Student must place the appropriate missing letter in each blank space.

Note: They should use upper case letters for the upper case card and lower case letters for the lower-case-card.

## ALPHABETICAL SEQUENCE

Number of Players: 3 or 4

Materials: Open-ended gameboard, pages 253 - 268. Twenty 3" x 5" cards, One 5" x 8" answer card. See instructions for open-ended games, page 251.

Procedure: On each card place three or four words that begin with a different letter. Student must say the correct alphabetical sequence for the words.

said
did
like
come

Variation: On each 3" x 5" card place three or four words in which the first letter is the same and the second letter is different.

come
can
climb
crowd

Structural Analysis

Grades: 3, 4, 5, 6
Tests: 41, 49

Skill: Alphabetizing

## WORD LIST

Alphabetize to the second letter

acorn
art
afraid
away

flag
feel
fog
fine

cheap
cup
crow
cost

top
thin
twin
tree

ghost
glow
gate
gone

open
ocean
oak
over

about
after
ago
art

candy
child
crow
coat

game
gym
ghost
gentle

melt
mine
must
mark

tail
think
topper
trap

feed
frog
flew
fine

wheat
winter
wrong
wool

bottle
bigger
blue
bring

root
rhyme
rest
runner

oat
open
oil
other

ugly
uncle
useful
upper

dress
display
dog
day

hour
hero
hair
hurry

jump
jet
joke
jack

Alphabetize to the third letter

thank
throw
thimble
though

grape
grind
group
greet

around
art
arrange
argue

enter
engage
enjoy
enemy

block
blanket
blister
blue

Alphabetizing (Cont.)

refine
return
recall
repeat

pool
poked
pond
poem

shelter
shadow
shoot
shawl

felt
feeding
fed
fence

nail
name
nap
nat

inch
ink
inside
indeed

likes
limb
line
listen

ring
ripe
rise
rich

plant
please
plow
plum

child
chess
chuck
chop

whale
where
white
why

follow
for
found
food

join
joke
jolly
jot

did
dime
dirt
dip

stone
strap
stand
steak

Alphabetize to the fourth, fifth or seventh letter

antibody
antic
antidote
anticipate
antique
antiseptic

differ
difference
different
difficult
diffident
diffusion

latch
late
latent
latex
lath
lather
Latin
latitude

semiannual
semifinal
semicolon
seminar
semiprecious
semicircle

autograph
autoharp
automat
automatic
automobile
autonomous
autocrat
autobiography

said
sailor
saint
sailing

wage
wagon
waggle
wagoner

currant
currier
curry
currently
curriculum
currency

fragrant
fragmental
fragile
fragment
fragrance

beet
beehive
beech
beer
beef
been

Structural Analysis

Grades: All
Test: 14

**Skill**: Compound Words

## WORD LIST

airplane
anything
anywhere
backyard
baseball
bathtub
bedroom
birthday
bluebird
bookmark
butterfly
campfire
cardboard
careless
classroom
clothesline
cowboy
cowgirl
cupboard
daydream
daylight
daytime
dishcloth
dollhouse
doorway
downhill
downstairs
downtown
drawbridge
earring
elsewhere
everybody
everyone
fireman
firewood
fireworks
fishhook
flagpole
flashlight
flowerpot
football
footsteps
forever
goldfish
grandfather
grandmother
grapefruit
groundhog
grownup
haircut
headlight
highway
hillside
homemade
horseshoe
hotdog
houseboat
inside
into
lookout
lunchroom
mailbox
makeup
moonlight
mountaintop
myself
newspaper
nobody
outside
pancake
peanuts
playground
playpen
playtime
policeman
popcorn
rainbow
raincoat
raindrop
roadside
sailboat
schoolroom
seashell
sidewalk
snowman
somehow
someone
sometime
spotlight
springtime
storyteller
strawberries
suitcase
sunset
teacup
toothbrush
treehouse
tugboat
upstairs
watchdog
watermelon
wildlife
wintertime
without
wristwatch
yourself

Structural Analysis

Grades: All
Test: 14

**Skill**: Compound Words

**Number of Players**: Small skill group

**Materials**: Work Sheet

**Procedure**: Students match the following words by drawing lines to make compound words. Then they write a paragraph using all the compound words.

fish
sea
air
spring
out

doors
plane
hook
time
shore

**Note**: This makes an excellent activity for a reinforcement center. See page 269.

## THE CLOZE PROCEDURE

The Cloze Procedure is based on the psychological theory of closure. This theory states that a person wants to complete any pattern which is not complete. In the case of the Cloze Procedure, the pattern is a passage from which every *n*th word is omitted.

It may be used effectively to determine the reading level of a student, or to determine appropriate readibility of textbooks. For the purpose of this prescriptive book, it is used as a tool for the reinforcement of comprehension skills.

Use appropriate basal readers, tradebooks or textbooks to construct the exercises. Select a passage of about 100 words for primary and 200 words for upper grades. Type the passage on a ditto so each student has a copy. Type the first and last sentence intact. In the remainder of the excerpt every *n*th word (i.e., fifth, seventh, or tenth) should be omitted and a blank about fifteen spaces long inserted in place of each omitted word. If students are reading below grade level begin by omitting every tenth word. The closer together the blanks, the more difficult the task.

For very young children use variations of the concept. For example, insert the first or first and last consonant, or put the correct number of spaces or a combination of both: i.e.

Come here Jill
I want you to c _ _ _ here Jill.

Come here Jill
I want you to _ _ _ _ here Jill.

The Maze Technique in which three choices are given is a variation of the Cloze Procedure. If students are having difficulty with the Cloze Procedure, begin with the Maze Technique.

Come here Jill
I want you to ______________ here Jill.
(A) was (B) come (C) go

Structural Analysis

**Skill**: Context Clues (Cloze Procedure)

Grade: 2, 3, 4
Test: 15, 40

## LET'S PLAY CARDS

**Number of Players**: 3 or 4

**Materials**: Prepare a stack of note cards. Twenty 3" x 5" cards, and one 5" x 8" answer card.

**Procedure**: Write an incomplete sentence on each card along with three word choices, one of which will complete the sentence. The child has to select the one word that best completes the sentence.

Place the cards upside down in the middle of the reading table. Have each child, in turn, draw a card. The child reads the sentence and selects the word that best fits the blank space. Ask the children as a group if this is the best word; if not, why it isn't.

**Note**: These same cards may be used with an open-ended game board, pages 253-268. See instructions for open-ended games, page 251.

1. Tell me where you ________.
   think live time
2. It is too ________ for a swim.
   take could cold
3. Dad will be ________ soon.
   walk was home
4. Cliff found the ball ________ the box.
   in can into
5. Here is a ________ for you.
   car slow ran
6. The little boy ________ on the floor.
   after sitting sat
7. I can ________ it.
   shoe see saw
8. I will put ________ toys into it.
   some after very
9. Where ________ the cat?
   was had come
10. Tell the ________ to come back.
    party day boys

Structural Analysis (cont.)

11. Don't go out _________ the rain.
in from was

12. I can't find my toy _________.
birthday where airplane

13. I think his _________ is Wayne.
bat name was

14. This _________ is a home for animals.
candy store well zoo

15. You can have all the _________ you want.
milk store play

16. "I don't know where Jill went," said Cliff. "I did not see _________ today."
him her me

17. Mother said not to _______ too fast.
funny hill run

18. An old _________ lives in that house.
man where new

19. It is too _________ to play in the sun.
fast hot fire

20. I see the _________.
was her toy

## ANSWER CARD

1. live
2. cold
3. home
4. in
5. car
6. sat
7. see
8. some
9. was
10. boys
11. in
12. airplane
13. name
14. zoo
15. milk
16. her
17. run
18. man
19. hot
20. toy

**Structural Analysis**

**Grades: All**
**Tests: 15, 40**

**Skill: Context Clues (Cloze Procedure)**

## HELP THE AUTHOR

**Number of Players:** Small skill group (teacher directed)

**Materials:** Story for teacher to read

**Procedure:** Select a story with which the class is not familiar. Explain that the teacher will read the story, but is going to need help.

State, "*At times, I will stop in the middle of a sentence and call on you to see if you know what word comes next.*"

This simple idea permits children, on any grade level, who are having difficulty with word attack skills to develop confidence in their abilities. Point out at the close of the lesson that it is not difficult to read a story even though a person might not know all the words.

To avoid breaking the students' trend of thought, do not pause too many times during the presentation of the story. This activity has the additional benefit, therefore, of getting children to concentrate as they read or listen, and of developing the skill of anticipating what is coming next.

**Skill**: Context Clues (Cloze Procedure)

Grades: 3, 4, 5, 6, 7, 8
Test: 40

NAME ____________________

## THE LIFE AND DEATH OF A HOUSE

In our city a building is coming down. I live right across the street from it, so I can watch.

My grandmother told me that when ____________ was a child, the building was ____________ home of a very rich man. ____________ lived in the house with ____________ wife, his two children, and more ____________ twenty servants.

His house was set ____________ beautiful gardens. Nearly every evening guests ____________ in silks and laces drove up in ____________ carriages. Then the house and gardens ____________ filled with laughing, dancing people.

When ____________ rich man died, his children moved ____________. The house was sold. It was ____________ into a boarding house. Apartment houses ____________ built nearby. They were built on ____________ spot where the beautiful gardens used ____________ be. The house began to look ____________ a little bit shabby.

After a ____________ of years, city inspectors came to ____________ at the house. They told the ____________ he could not keep a boarding ____________ there anymore. Now the neighborhood was ____________ for apartment houses.

So the old ____________ was turned into an apartment house. ____________ walls were built where doors used ____________ be. Kitchens were put where guests ____________ servants once slept. Large rooms were ____________ into several small rooms. Thirty families moved in where one family had once lived.

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

| | | | | | |
|---|---|---|---|---|---|
| she | the | He | his | than | in |
| dressed | horse-drawn | were | the | away | turned |
| were | the | to | just | number | look |
| owner | house | only | house | New | to |
| and | turned | | | | |

*Teacher: Fold under on the dotted line before giving the page to students. It is suggested that students do the sheet individually, then discuss and compare with a partner. The third step is to discuss answers, as a group, with the teacher. The correct answers go horizontally.*

Structural Analysis

Grades: 3, 4, 5, 6, 7, 8
Test: 40

Skill: Context Clues (Cloze Procedure)

## MAZE TECHNIQUE

Number of Players: 4

Materials: One open-ended game board, see pages 253 - 268, twenty 3" x 5" game cards, one 5" x 8" answer card, die or spinner and markers.

Procedure: See instructions for open-ended games page 251. Write one of the following sentences and accompanying words on each 3 x 5 game card.

1. After high school, I am going to ______________.
    - A. plane
    - B. balance
    - C. college
    - D. coast
2. The spider's web is ______________.
    - A. green
    - B. quick
    - C. delicate
    - D. coarse
3. The artist drew a ______________
    - A. design
    - B. nylon
    - C. deposit
    - D. downfall
4. It was cold so he found a cave for ______________.
    - A. sleeping
    - B. drawing
    - C. shelter
    - D. fun
5. He wanted to ______________ a time machine.
    - A. create
    - B. place
    - C. cure
    - D. iron
6. You can find out about our nation's past by reading a(an) ____________ book.
    - A. math
    - B. history
    - C. science
    - D. English
7. The quiet and ______________ deer hid in the bushes.
    - A. timid
    - B. loud
    - C. noisy
    - D. formal
8. The ______________ of the candle went out.
    - A. burning
    - B. flame
    - C. tallow
    - D. anger

## Cloze Procedure (Cont.)

9. The man was fast; he did his work ______________.

A. slowly
B. quickly
C. homely
D. softly

10. Smog ______________ is a problem in the city.

A. dirts
B. minerals
C. oxygens
D. pollution

11. The lion growled. It sounded ______________.

A. fierce
B. warm
C. calm
D. soft

12. The animal ran ______________ with great speed.

A. slowly
B. swiftly
C. happily
D. quietly

13. We saw an insect through the ______________.

A. muscle
B. microscope
C. labor
D. instant

14. The names of some towns are ______________.

A. fallen
B. funny
C. jump
D. talk

15. They like to sleep on ______________ beds.

A. honey
B. bring
C. beds
D. soft

16. Birds are not all the same ______________.

A. together
B. color
C. toes
D. wave

17. The ______________ pulls the kite high above the ground.

A. horse
B. tail
C. wind
D. pole

18. Cats can ______________ trees.

A. fell
B. climb
C. plan
D. cut

19. Some are big. Some are ______________.

A. cover
B. smell
C. very
D. small

20. In winter the fur keeps the bear ______________.

A. warm
B. wishing
C. weather
D. colder

**Answer Card**

1. C college
2. C delicate
3. A design
4. C shelter
5. A create
6. B history
7. A timid
8. B flame
9. B quickly
10. D pollution
11. A fierce
12. B swiftly
13. B microscope
14. B funny
15. D soft
16. B color
17. C wind
18. B climb
19. D small
20. A warm

Structural Analysis

Grades: All
Tests: 17, 33

**Skill**: Synonyms

## WORD LIST

## Level I

### Grade 1

- alike/same
- begin/start
- cry/sob
- enjoy/like
- fall/drop
- gift/present
- gone/away
- happy/glad
- ill/sick
- keep/hold
- look/see
- large/big
- little/small
- simple/easy

### Grade 2

- above/over
- act/behave
- aid/help
- always/forever
- answer/reply
- bashful/shy
- bat/hit
- big/huge
- both/two
- bright/shiny
- center/middle
- close/shut
- cost/price
- crowd/many
- fact/truth
- fast/swift
- gather/collect
- ground/land
- gentle/soft
- good/fine
- help/assist
- hunt/look
- hurry/rush
- keen/sharp
- leaped/jumped
- make/build
- order/command
- over/done
- own/have
- passed/went by
- plain/simple
- plan/think about
- plates/dish
- pleasant/nice
- pleased/glad
- promise/I will
- put/place
- question/ask
- quiet/silent
- quietly/softly
- raised/lifted
- rear/back
- repair/fix
- rich/wealthy
- right away/very soon
- rude/impolite
- spin/twirl
- street/road
- shove/push
- scramble/mix up
- sniff/smell
- speak/talk
- stop/end
- trail/path
- untie/unfasten

## Level II

### Grade 3

- afraid/fearful
- annoy/bother
- arid/dry
- benefit/help
- calm/still
- cluster/gather
- countries/nations
- damage/injure
- dashed/hurried
- defend/protect
- disappear/fade
- distant/far
- explore/investigate
- feeble/weak
- finish/conclude
- firm/solid
- frown/scowl
- full/blunt
- funny/comical
- gigantic/huge
- heap/pile
- hire/employ
- information/facts
- injure/harm
- imitate/copy
- lead/guide
- limb/bough
- money/funds
- needs/requires
- odd/strange
- odor/smell
- plot/plan
- remain/stay
- repair/mend
- ridiculous/foolish
- sailing/cruising
- seem/appear
- shine/glisten
- shout/yell
- show/reveal
- sleep/slumber
- smart/clever
- stop/halt
- tale/story
- timid/shy
- told/informed
- try/attempt
- wish/desire

Synonyms (Cont.)

## Grade 4

average/middle
attach/fasten
alert/watchful
amuse/entertain
angry/irate
barren/bare
bend/curve
brave/valiant
change/vary
commemorate/honor
danger/peril
dazed/stunned
discouraged/little hope
eat/devour
edge/brink
enemy/foe
exact/precise
frank/candid
fussy/finicky
give/bestow
grave/serious
harvest/gather
ladle/dipper
main idea/main topic
obstruct/hinder
nectar/sweet liquid
portal/doorway
predict/forecast
profit/gain
principal/main
raise/hoist
requires/needs
roam/wander
restless/fidgety
safe/secure
shiver/shake
skeleton/bone
sprawling/spreadi
tempt/entice
unafraid/bold
vague/unclear
worry/fret
withered/dried

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Structural Analysis

Grades: All
Tests: 17, 33

Skill: Synonyms

## WAGON WHEEL

Number of Players: Partners

Materials: Six 10" - 14" diameter colored tagboard circles. Laminate or cover with clear contact paper.

Procedure: At the hub of a large wagon wheel shape, place a common word such as BIG. On the spokes of the wheel, have students place synonyms: LARGE, IMMENSE, GIGANTIC, HUGE, TREMENDOUS, ENORMOUS. These words may be printed on strips of paper so that the wheel can be used repeatedly as other groups of words are studied. Common words which lend themselves to this sort of examination are: LITTLE, PRETTY, WALK, and GOOD.

Variations: Feature one word each week. Discuss the synonyms, using them in sentences so students are familiar with the new words and can read them with ease.

Structural Analysis

Grades: All
Tests: 18, 34

Skill: Antonyms

## WORD LIST

## Level I

### Grade 1

after/before
are/aren't
away/here
big/little
black/white
come/go
cool/warm
day/night
down/up
dry/wet
fast/slow
fat/thin
first/last
give/take
good/bad
good-bye/hello
hot/cold
off/on
old/new
out/in
sad/happy
stay/go
stop/go
work/play
yes/no

### Grade 2

above/below
awake/asleep
bottom/top
buy/sell
came/went
cry/laugh
dirty/clean
end/begin
foolish/wise
forget/remember
found/lost
front/back
full/empty
glad/sad
hard/soft
heavy/light
here/there
high/low
inside/outside
late/early
left/right
light/dark
lost/found
many/few
morning/evening
near/far
open/close
poor/rich
pull/push
right/wrong
shut/open
sick/well
summer/winter
tall/short
take/give
that/this
thick/thin
true/false
under/over
weak/strong
young/old

### Grade 3

afraid/brave
arrive/leave
begin/finish
bought/sold
bunch/few
cheap/expensive
crooked/straight
dim/bright
easy/difficult
everybody/nobody
fair/unjust
familiar/strange
fresh/stale
friends/enemies
junk/treasure
keep/discard
kind/cruel
leave/stay
lead/follow
lift/drop
loose/tight
move/stay
never/always
north/south
now/later
pitch/catch
plain/fancy
question/answer
quiet/noisy
receive/send
rude/polite
same/different
sharp/dull
smile/frown
smooth/rough
tight/loose
then/now
those/these
throw/catch
ugly/beautiful
west/east
wide/narrow
wild/tame
windy/calm

Antonyms (Cont.)

## Grade 4

approve/veto
brave/cowardly
complex/simple
generous/selfish
important/trivial
imprison/free
level/uneven
often/seldom
overhead/underfoot
part/whole
quarrel/agree
rarely/usually
separately/together
shouted/whispered
vanish/appear
wisely/foolishly

**Structural Analysis**

**Skill**: Antonyms

**Grades: 1, 2, 3**
**Test: 18**

## WORD OPPOSITES

**Number of Players**: Individual or partners

**Materials**: Two 8" x 10" cards, one 8" x 10" picture, box for storing game cards and puzzle pieces.

**Procedure**: Write twenty words on an 8" x 10" card which has been divided into 2" squares. On an identical card, write the antonyms for these words in the squares which if superimposed, would correspond to the correct answers. Glue a picture over the back of answer card. Cut it into twenty squares. Laminate or cover with contact paper.

The player places the answers over the word opposites on the card. To check the answers, the player turns the cards over so the picture shows. If the picture is correct, the answers are correct.

| | | | |
|---|---|---|---|
| now | found | off | front |
| take | laugh | city | under |
| day | before | last | run |
| work | near | always | old |
| white | little | man | stay |

| | | | |
|---|---|---|---|
| then | lost | on | back |
| give | cry | farm | over |
| night | after | first | walk |
| play | far | never | new |
| black | big | woman | go |

Back

**Note**: This activity is also appropriate for reinforcing the following skills:

Tests 17,33 Synonyms
19,39 Contractions

Structural Analysis

**Skill**: Antonyms

Grades: 1, 2, 3, 4
Tests: 18, 34

## OPPOSITES

**Number of Players**: 2

**Materials**: Fifteen 5" x 8" cards

**Procedure**: Prepare task cards with the following activities. Each sentence should be read by one child and answered by another.

1. *I will say a sentence. You say the same sentence using an opposite word. For example, if I say "I saw a big dog". You would say "I saw a little dog".* Any sentence that makes sense should be accepted.

I have a thick piece of paper. *(I have a thin piece of paper.)*
I went over a high bridge.
I see something very soft.
The balloon went up.
The dog came in.
The train went very slowly.
Put this on the top shelf.
The man is very short.
The soup is very cold.
I see an old man.
Here is a little cup.
The window is very low.
He put the hat on the top shelf.
My hands are hot.

2. *I will say a sentence, leaving out one word. You say the same sentence and add the missing word.*

Snow is cold, fire is ________.
Sand is dry, water is ________.
People walk, birds ________.
The sun shines in the day, the moon shines at ________.
A dog is an animal, an apple is a ________.
A snail is slow, a rabbit is ________.
Dogs have hair, birds have ________.
A tree is a plant, a giraffe is an ________.

**Skill**: Antonyms

## ILLUSTRATED ANTONYMS

**Number of Players**: Partners or small skill group

**Materials**:

**Procedure**: Have pupils draw cartoons or stick figures to illustrate opposite meanings. Words could be chosen from the stories the children are reading. See word list, page 153, for additional antonyms.

SAMPLES

hard — soft
hot — cold
up — down

polite — impolite
careful — careless

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Structural Analysis

Grades: 4, 5, 6, 7, 8
Test: 34

**Skill**: Antonyms

NAME ______________________

Match the words in the first column with their antonyms in the second column.

| | |
|---|---|
| discord | enjoy |
| mourning | eager |
| midst | rejoicing |
| loath | reward |
| acquaintance | harmony |
| deliberate | ruler |
| defendant | gentle |
| perilous | plaintiff |
| ferocious | stranger |
| amplify | indifferent |
| loathe | outskirts |
| impudent | safe |
| penalty | diminish |
| curious | polite |
| subjects | accidental |

Structural Analysis

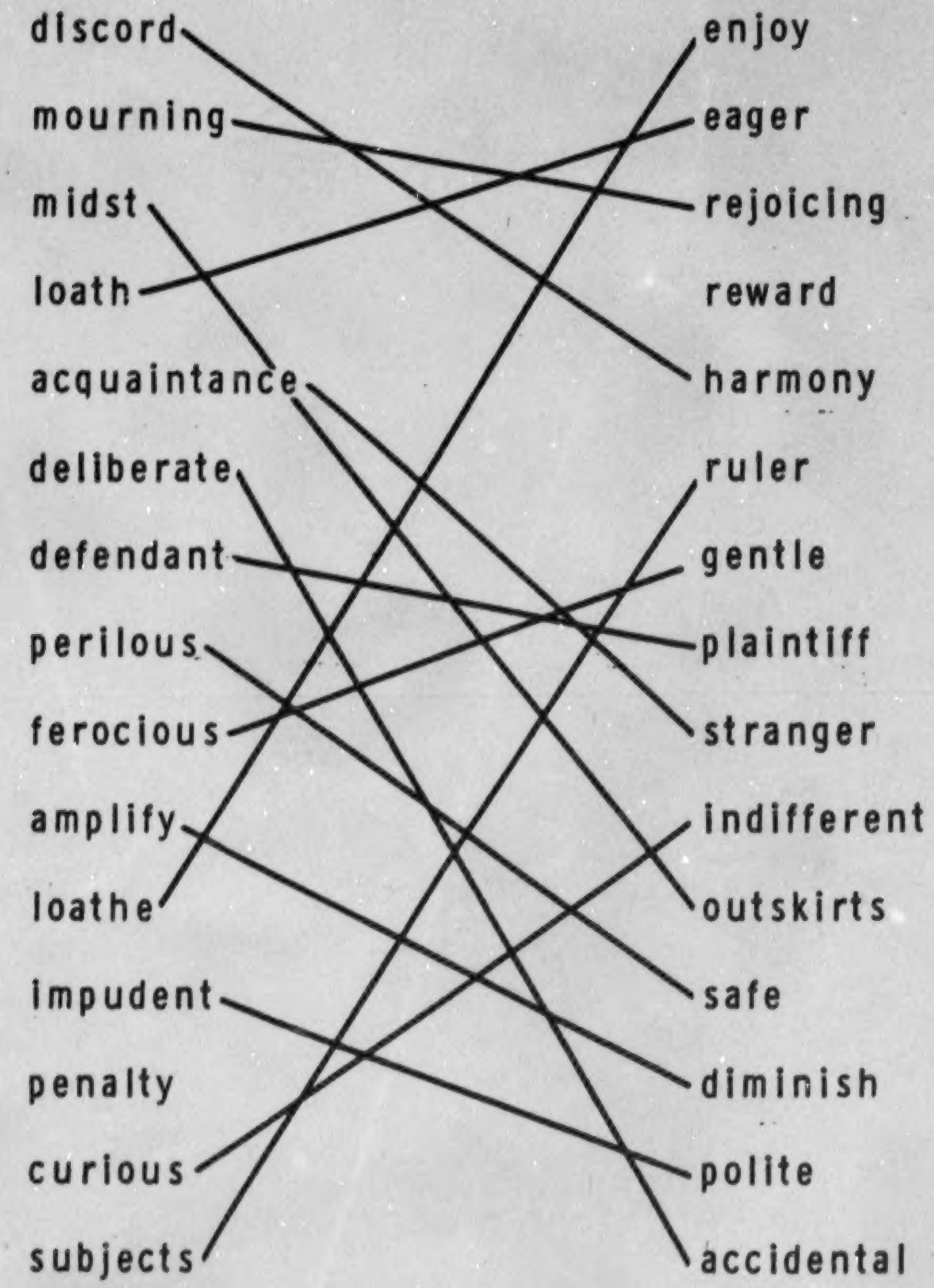
Grades: 4, 5, 6, 7, 8
Test: 34

**Skill**: Antonyms

## ANTONYMS ANSWER KEY

NAME ____________________

Match the words in the first column with their antonyms in the second column.



| | |
|---|---|
| discord | enjoy |
| mourning | eager |
| midst | rejoicing |
| loath | reward |
| acquaintance | harmony |
| deliberate | ruler |
| defendant | gentle |
| perilous | plaintiff |
| ferocious | stranger |
| amplify | indifferent |
| loathe | outskirts |
| impudent | safe |
| penalty | diminish |
| curious | polite |
| subjects | accidental |

Structural Analysis

Grades: All
Tests: 19, 39

**Skill**: Contractions

## WORD LIST

## LEVEL I

### Grade 1

can't/cannot
didn't/did not
don't/do not
he's/he is
I'm/I am
isn't/is not
she's/she is

### Grade 2

aren't/are not
couldn't/could not
doesn't/does not
hadn't/had not
haven't/have not
he'll/he will
here's/here is
I'll/I will
it's/it is
I've/I have
let's/let us
she'll/she will
that's/that is
they're/they are
wasn't/was not
we're/we are
won't/will not
you're/you are

## LEVEL II

### Grade 3

hasn't/has not
shouldn't/should not
there's/there is
they'll/they will
we'll/we will
weren't/were not
what's/what is
who's/who is
wouldn't/would not
you'll/you will

### Grade 4

he'd/he would
I'd/I would
she'd/she would
they'd/they would
they're/they are
we'd/we would
we've/we have
who'd/who would
you'd/you would
you've/you have

Structural Analysis

Grades: All
Tests: 19,39

**Skill**: Contractions

## IT

**Number of Players**: Small skill group

**Materials**: Thirty 8" x 10" tagboard cards

**Procedure**: Give cards on which a contraction is written to half the students. Give the other students cards bearing the two words from which one of the contractions is formed.

Ask one pupil to be "it".

As the teacher says either a contraction or a combination of two words, the student who has the card with the contraction and the student who holds the card with the two words change seats. "It" tries to get a seat. The pupil who doesn't get a seat becomes "it".

Structural Analysis

Grades: All
Tests: 20, 38

Skill: Syllables

## WORD LIST

### One Syllable Words

am
bail
bike
black
boat
break
cold
coat
come
cry
down
each
flake
from
get
have
hurt
kick
might
stay
such
swam
ten
think
three
throw
took
when

### Two Syllable Words

a/bout
a/cross
air/plane
al/so
a/round
ba/by
bal/loon
bas/ket
be/cause
birth/day
blan/ket
bot/tle
bub/ble
but/ter
cam/el
car/pet
chil/dren
cor/ner
cray/on
cur/tain
dan/ger
doc/tor
farm/er
fin/ger
flow/er
fun/ny
gar/den
gi/ant
ham/mer
hel/lo
hon/ey
hun/dred
in/sects
jack/et
kitch/en
kit/ten
lad/der
lem/on
let/ter
mag/ic
mar/ble
mid/dle
moth/er
mu/sic
nee/dle
num/ber
or/ange
pa/rade
pea/nut
peo/ple
pic/ture
plas/tic
pock/et
ques/tion
rab/bit
riv/er
rock/et
sand/wich
sec/ond
sev/en
sil/ver
some/thing
spi/der
stock/ing
sug/ar
thun/der
ti/ger
to/night
tur/tle
up/stairs
wag/on
win/dow
yel/low
zip/per

### Three Syllable Words

ac/ci/dent
af/ter/noon
al/pha/bet
an/i/mal
an/oth/er
a/part/ment
as/tro/naut
ba/na/na
beau/ti/ful
bi/cy/cle
ca/nar/y
car/di/nal
choc/o/late
co/co/nut
com/pa/ny
De/cem/ber
de/light/ful
dif/fer/ent
e/lec/tric
el/e/phant
e/lev/en
en/joy/ment
eve/ry/one
fam/i/ly
fur/ni/ture
gro/cer/y
ham/burg/er
hol/i/day
hos/pi/tal
jel/ly/fish
kan/ga/roo
lol/li/pop
mag/a/zine
mar/i/gold
med/i/cine
mos/qui/to
mu/se/um
news/pa/per
Oc/to/ber
par/a/chute
pi/an/o
po/lice/man
po/ta/to
re/mem/ber
some/bod/y
straw/ber/ry
sub/ma/rine
sun/flow/er
tel/e/phone
to/geth/er
to/ma/to
to/mor/row
tri/cy/cle
type/wri/ter
um/brel/la
va/ca/tion
val/en/tine
vi/o/lin
vol/ca/no
won/der/ful
yes/ter/day

Structural Analysis

Grades: All
Test: 20

**Skill**: Syllables

NAME ______________________________

**DIRECTIONS**: Make a word by matching a syllable in the first column to a syllable in the second column of each box. Write the words on the lines.

| | | | | | |
|---|---|---|---|---|---|
| a | ing | ________________ | pop | es | ________________ |
| look | bout | ________________ | to | ing | ________________ |
| pen | by | ________________ | box | py | ________________ |
| ba | ny | ________________ | com | day | ________________ |
| fun | ing | ________________ | cut | ting | ________________ |
| a | thing | ________________ | a | got | ________________ |
| sing | ny | ________________ | for | ing | ________________ |
| some | lone | ________________ | do | way | ________________ |
| some | one | ________________ | in | ing | ________________ |
| with | er | ________________ | giv | er | ________________ |
| fast | ping | ________________ | my | side | ________________ |
| hop | out | ________________ | high | self | ________________ |
| teach | ed | ________________ | my | cret | ________________ |
| arm | ter | ________________ | se | self | ________________ |
| af | ful | ________________ | nee | ble | ________________ |
| paint | ing | ________________ | mar | dle | ________________ |

Structural Analysis

Grades: All
Test: 20

**Skill**: Syllables

## FIND THE RULE

**Number of Players**: Partners

**Materials**: Five lunch size paper bags, thirty 3" x 5" cards, a box for storage and a label, one card with instructions for the child.

**Procedure**:

1. Write each of these basic rules of syllabication on a 2" x 3" strip.

| | |
|---|---|
| Rule 1 | Single consonant between two vowels |
| Rule 2 | Double consonant between two vowels |
| Rule 3 | Consonant before final "le" |
| Rule 4 | Suffix "ed" is a separate syllable when the root word ends with "t" or "d" |
| Rule 5 | "ing" is usually a separate syllable |

2. Number and label the bags with these cards.

3. On each card, write one of the following words. Each one fits into one of the rules of syllabication written on the bags.

| 1 | |
|---|---|
| broken | (bro/ken) |
| mural | (mu/ral) |
| pupil | (pu/pil) |
| taken | (ta/ken) |
| token | (to/ken) |

| 2 | |
|---|---|
| bigger | (big/ger) |
| dessert | (des/sert) |
| happy | (hap/py) |
| letter | (let/ter) |
| little | (lit/tle) |
| pressure | (pres/sure) |
| rabbit | (rab/bit) |
| ribbon | (rib/bon) |

| 3 | |
|---|---|
| able | (a/ble) |
| circle | (cir/cle) |
| maple | (ma/ple) |
| table | (ta/ble) |
| turtle | (tur/tle) |
| whistle | (whis/tle) |

| 4 | |
|---|---|
| folded | (fold/ed) |
| molded | (mold/ed) |
| needed | (need/ed) |
| planted | (plant/ed) |
| wanted | (want/ed) |

| 5 | |
|---|---|
| lurking | (lurk/ing) |
| seeing | (see/ing) |
| smiling | (smil/ing) |
| talking | (talk/ing) |
| walking | (walk/ing) |
| watching | (watch/ing) |

Find the Rule (Cont.)

4. For self-correction, code each card on the back with the syllabication rule number.

5. Laminate each card.

DIRECTIONS TO THE CHILD:

Read the rules on the front of each bag. Look at each card and read the word written on it. Figure out which rule you would use if you were breaking the word into syllables. Look for a clue in each word. Put the cards in their right bags.

Note: This is an excellent activity for a reinforcement center, see page 269.

Structural Analysis
**Skill**: Syllables

Grades: All
Tests: 20, 38

## GET TOGETHER

**Number of Players**: Small skill group

**Materials**: Chalkboard and chalk

**Procedure**: 1. Write a three-syllable word on the chalkboard - with the syllables scrambled on three different sections of the board.

2. Children are to rewrite the word correctly.

3. The first child with the word written correctly may write the next word on the chalkboard. (An advanced skill would be to write two words on the board, with random placement of syllables.)

Structural Analysis

**Skill**: Syllables

Grades: 4, 5, 6
Tests: 20, 38

## SYLLABLES

NAME ____________________

Directions: In each line are some syllables. In most cases, when two of the syllables are put together, they form a word.

In each line, find the extra syllable and mark an a, b, or c on an answer sheet. If you cannot make a word, mark an N.

---

| | a | b | c |
|---|---|---|---|
| 1. | com | er | pete |
| 2. | tic | fran | er |
| 3. | ways | in | al |
| 4. | go | on | ing |
| 5. | in | er | tion |
| 6. | us | dis | ual |
| 7. | ing | miss | pre |
| 8. | to | ward | ing |
| 9. | come | be | con |
| 10. | est | con | ba |
| 11. | re | star | ly |
| 12. | ist | ish | ban |
| 13. | side | miss | in |
| 14. | ty | sat | safe |
| 15. | est | green | ly |

| | a | b | c |
|---|---|---|---|
| 16. | in | go | vest |
| 17. | shad | ow | ly |
| 18. | ing | van | re |
| 19. | er | short | tion |
| 20. | ing | send | est |
| 21. | plain | tion | com |
| 22. | col | tion | or |
| 23. | frag | in | ile |
| 24. | tor | sion | ac |
| 25. | aer | os | ing |
| 26. | zen | fro | ling |
| 27. | pot | est | jack |
| 28. | er | larg | ing |
| 29. | run | light | tion |
| 30. | man | sly | ner |

Structural Analysis

Skill: Syllables

Answer Key for Syllables

1. b
2. c
3. b
4. b
5. N
6. b
7. c
8. c
9. c
10. a
11. b
12. a
13. b
14. b
15. c
16. b
17. c
18. N
19. c
20. c
21. b
22. b
23. b
24. b
25. N
26. c
27. b
28. c
29. N
30. b

Structural Analysis

**Skill**: Prefixes (meaning)

Grades: All
Tests: 22, 36, 46

## WORD LIST

### Grade 1

| | | |
|---|---|---|
| re | again | replay, recalculated, repeat, return |
| un | opposite of, not | unlock, untrue, unhappy |

### Grade 2

| | | |
|---|---|---|
| dis | apart, not, away | dislike, discontinue, discourage, dishonest, dispose |
| pre | before | prefix, prepay |

### Grade 3

| | | |
|---|---|---|
| bi | twice, doubly | bipartisan, bicycle, biweekly bifocal, biplane |
| ex | out | exit, exchange, extract, exist |
| in | not, absence of | insane, indirect, invisible |
| in, en | in, into, put in, toward | engrave, enclose, inborn income |
| mis | badly, wrong | mislaid, misunderstand, misspell, mistreat, mistake |

### Grade 4

| | | |
|---|---|---|
| com | with, together | companion, compress |
| con | with | connect |
| de | down, from | dethrone, depart |
| fore | before | foretold, forwarned |
| sub | under, below | substantial, subway, submarine |
| trans | across, through | transport, transfusion |

Prefixes (meaning) (Cont.)

## Grade 5

| | | |
|---|---|---|
| anti | against | anticlimax, antifreeze, antiwar |
| en | in, into | enter, enforce, envelope |
| pro | in front of | promote, profit, project |
| semi | half | semiannual, semiprivate, semimonthly |
| super | over, above | supervisor, superabundance, superior |
| syn | together, at the same time | synagogue, synonym |

## Grade 6

| | | |
|---|---|---|
| a, ab | from, away | abnormal, absolve, absent |
| ad, ap | to, toward | adjoin, appoint, administer |
| ante | before | anteroom, antecedent, antedate |
| di, dia | apart, between | diameter, dialect, divide |
| em | in | embark, emphasis |
| inter | between | interview, intermission, international |
| intra, intro | inside | intramural, intravenous introduce |
| mono | one, single | monotone, monograph, monopoly, monorail |
| non | not | nonsense, nonfiction, nonconformist |
| of, ob, op | against, to | object, obtain, offense opposition |
| pan | whole | panorama, pantomime |
| para | beside, rear | parallel, parasite, paraphrase |
| per | through, thoroughly | percolate, perforate |
| post | after, behind | postgraduate, post script, postpone |
| se | apart, without | segregate, seclude, secede |
| tri | three | tricycle, tripod, triangle |
| ultra | beyond | ultramodern, ultraviolet |

Structural Analysis

Grades: 3, 4, 5, 6, 7, 8
Tests: 22, 35

Skill: Prefixes

NAME ______________________

Form words by adding one of the common first syllables re, de, or be to each syllable listed below. Be sure the words formed are real ones.

re

de

be

_______ neath

_______ cide

_______ peat

_______ part

_______ main

_______ fore

_______ gin

_______ cord

_______ pend

_______ mind

_______ tween

_______ cay

Structural Analysis

**Skill**: Prefixes

Grades: 3, 4, 5, 6, 7, 8
Tests: 35, 45

## PREFIX GAME

**Number of Players**: 6

**Materials**: Six 9" x 12" colored tagboard gameboards
Sixty-two 2½" x 3" cards

**Procedure**: Make six playing boards on 9" x 12" sheets of colored tagboard. Across the top row of each board, print four prefixes chosen from the list on this page. Use as many different prefixes as possible on the six boards. Laminate. Make sixty-two tagboard cards (each 2½" x 3").

| mis | sub | dis | im |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

On eight of these cards, print the word "FREE". On each of the remaining cards, print one of the base words from the words below.

Shuffle the cards and place them face down in the center of the table. Each child has a prefix board. The first player draws a card and reads the base word aloud. If the child can form a word by combining the base word with one of the prefixes on the board, the child says the new word aloud and places the card in the column of his/her board under the prefix used. If the child cannot make a word, the card is discarded. If the child draws a "FREE" card, it may be placed anywhere on the board. (The child may not move the "FREE" card after it has been placed.) The first player to fill all the spaces on his/her board wins the game. If the game is not completed after going through the stack of cards, reshuffle the discard pile and continue until the first student is able to fill a board.

### PREFIXES AND BASE WORDS FOR THE PREFIX GAME

| mis | sub | dis | in | un | re | de | pre | im |
|---|---|---|---|---|---|---|---|---|
| behave | marine | like | justice | finished | pay | code | shrunk | mature |
| place | topic | obey | active | wise | visit | rail | judge | polite |
| trust | floor | connect | complete | happy | build | sign | historic | possible |
| use | soil | color | correct | friendly | open | value | test | proper |
| match | total | appear | visible | fold | fill | throne | paid | pure |
| spell | culture | agree | action | tie | paint | frost | set | patient |

**Note**: These prefixes and base words can be combined in other ways to form words such as replace or misplace. Use a dictionary to resolve any disputes about the validity of words used in the game.

319

Structural Analysis Grades: 4, 5, 6, 7, 8
Tests: 35, 36, 46

**Skill**: Prefixes

## PREFIX PLUS

**Procedure**: Choose a common prefix. On the chalkboard or on duplicated sheets, list words containing that prefix. Ask students to choose a word from Column 3 that fits each definition in Column 2.

EXAMPLE 1:

| Column 1 | Column 2 | Column 3 |
|---|---|---|
| ex----- | to tell about | *exhale* |
| ex---- | to ship out of the country | *expel* |
| ex---- | to breathe out | *explain* |
| ex---- | to dig up or remove from a grave | *exalt* |
| ex--- | to force or drive out | *exhaust* |
| ex---- | to make visible | *expose* |
| ex--- | to raise in rank | *export* |
| ex----- | to make weary | *exhume* |

EXAMPLE 2:

| Column 1 | Column 2 | Column 3 |
|---|---|---|
| re--- | to answer | *reimburse* |
| re---- | to go back | *rehabilitate* |
| re--- | to mention | *regurgitate* |
| re--- | to get & pass on | *refer* |
| re------ | to bring back to mind | *relay* |
| re---------- | to bring back to normal | *remain* |
| re---- | to stay | *remember* |
| re--------- | to throw up | *return* |
| re------- | to pay back | *reply* |

**Note**: Allow students to work in groups and make up similar games using other prefixes such as: dis, un. (Check dictionary for lists of words.)

**Note**: When introducing this activity it is useful to use column 1 to provide clues for students. After students are thoroughly familiar with the activity, column 1 should be eliminated.

350

**Skill**: Prefix, Suffix meaning

## MEANING MATCH

**Number of Players**: 2 to 4

**Materials**: 22" x 28" poster board to be used as a game board
One hundred 2" x 3" cards (50 pink, 50 blue)

**Procedure**: Illustrate game board by showing the title and ruling off the playing area into 2½" x 3½" rectangles. Using the 50 pink cards, print prefixes horizontally on 25 and prefix meanings vertically on 25. Using the 50 blue cards, print suffixes horizontally on 25 and suffix meanings vertically on 25. To play, shuffle the cards all together and place one face-down on each rectangle. Players take turns turning one card face-up. As soon as any player spots an affix meaning match, the player calls out the affix and meaning. A master list of prefix and suffix meanings should be available to check responses. If the player has a pair (e.g. mis-/wrong), the cards are kept. The player who has the most pairs wins. As cards are removed, new cards are placed face-down from the deck of remaining cards. Refer to pages 169 - 170 for prefixes, and to pages 179 - 180 for suffixes.

351

Structural Analysis

Grades:
Tests: 35, 45

**Skill**: Prefixes, Base Words, Suffixes

## ROLL A WORD

**Number of Players**: 2

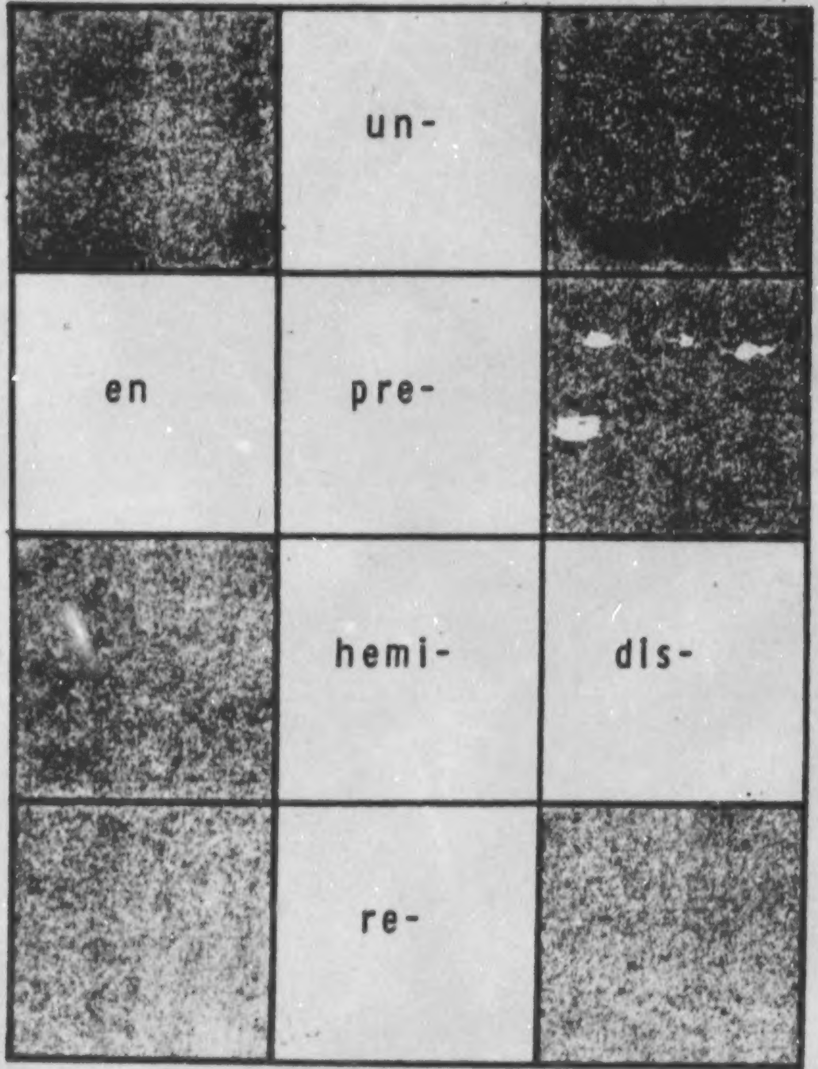
**Materials**: Tagboard to make: Three 1½" dice for prefixes (blue), Three 1½" dice for suffixes (red), Fifteen - 1½" dice for base words (yellow), Laminate or cover with clear contact.

**Procedure**: Make the die as illustrated. Place all the dice in a small box, shake, and toss on a table top. Players work to see who can make the greatest number of affixed words. A point is scored for each cube used.

**Variation**: Two extra points may be earned by defining the word. More dice may be add

Prefixes might be:

- re
- un
- dis
- pre
- bi
- ex
- in
- mis
- com
- con
- de
- fore
- sub
- trans
- anti
- pro
- semi
- super



Suffixes might be:

- ful
- ly
- hood
- less
- ed
- s
- ist
- ment
- ness
- some
- ward
- able
- er
- or

Base Words might b

- agree
- care
- enjoy
- fear
- rest
- rock
- slow
- strong
- warm
- marine
- cycle

**Structural Analysis**

Grades: 4, 5, 6, 7, 8
Test: 35, 45

Skill: Base Words

NAME ____________________

Finding base words in derived forms sometimes requires a good detective. Can you find the base words in these words? Write the word on the line.

nonfactual ____________________

ownership ____________________

imaginary ____________________

scientific ____________________

unknown ____________________

disappeared ____________________

invaluable ____________________

uncomfortable ____________________

overadvertised ____________________

rewritten ____________________

**Structural Analysis**

**Skill: Suffixes**

**Grades: 5, 6, 7, 8**
**Tests: 35, 37, 45, 48**

## SUFFIX SHUFFLE

**Number of Players**: 3 or 4

**Materials**: Twenty-five to thirty 1" x 4" cards

**Procedure**: All the words in this game will end in either -tion, -age, -ment or -cy. Prepare twenty-five to thirty 1" x 4" cards. On each card write the beginning of a word that will end with one of the above endings. Also include a number from one to five denoting a value to be used in scorekeeping. On the reverse side write the definition of the word.

Post the following game rules near the playing area:
Rules of game: Place the cards in the middle of a table or other activity areas. The first player draws a card and reads the definition. Then the player looks at the beginning part of the word on the back of the card. If the student can supply the word that fits the definition by adding -tion, -age, -cy, or -ment to the word-part on the card, the player keeps the card and scores the points listed on that card. The next player takes a turn. If a player cannot make a word, the card is put on the bottom of the pile and the player passes. The player with the highest score at the end wins. The winner may or may not have the highest number of cards since the words are worth different amounts.

The following eleven words are examples of words that are suitable for playing the game described above. Write what appears in Column 1 on one side of the card; on the reverse side of the card write what appears under Column 2. Make an answer card using Column 3.

| Column 1 | | Column 2 | Column 3 |
|---|---|---|---|
| fluen | 4 | ability to talk clearly and easily | fluency |
| luna | 3 | madness | lunacy |
| dona | 2 | something given to charity | donation |
| vacan | 4 | an empty room in a hotel | vacancy |
| litera | 4 | ability to read and write | literacy |
| informa | 4 | knowledge, facts | information |
| direc | 3 | an instruction on how to do something | direction |
| supple | 5 | to make additions to | supplement |
| pilgrim | 4 | a long journey | pilgrimage |
| infan | 2 | during baby years | infancy |
| democra | 5 | our form of government | democracy |

Note: Allow the students to work in groups and make up similar games using other suffixes such as: -able, -our, -ful, -ness, and so on.

Structural Analysis

**Skill**: Suffixes

Grades: 3, 4, 5, 6, 7, 8
Tests: 35, 37, 45, 48

## FIND THE SUFFIX

**Number of Players**: Small skill group

**Materials**: One manila folder per student, library book pockets, thirty-six 3" x 5" cards per folder.

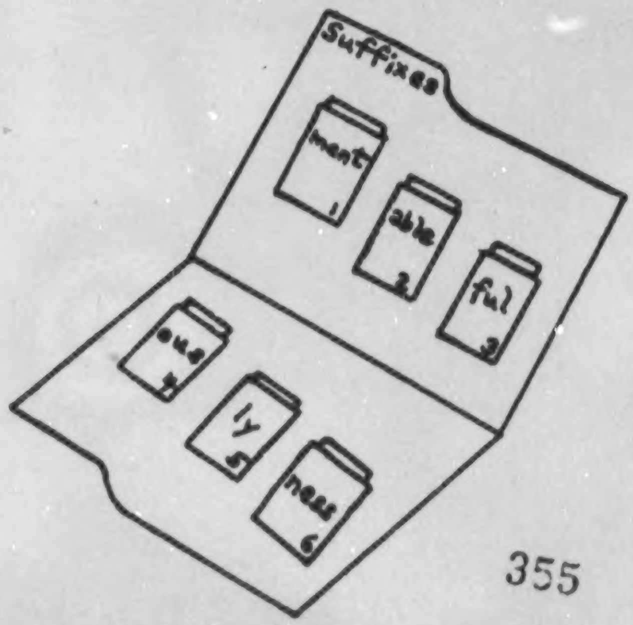
**Procedure**: Fasten six library book pockets inside a manila folder. On each pocket, write one of the suffixes from the following list. On each card, write one of the base words from the list.

Have student take a folder and a deck of cards. The child reads each base word and places the card into a pocket for a suffix that can be combined with the base word.

### BASE WORDS AND SUFFIXES FOR "FIND THE SUFFIX"

| ness | ly | ous | able | ful | ment |
|---|---|---|---|---|---|
| great | week | marvel | laugh | color | amuse |
| thick | hour | courage | print | cheer | amaze |
| dark | sudden | poison | favor | help | place |
| ill | slow | danger | avail | truth | assign |
| sad | man | humor | work | hand | amend |
| mad | woman | fame | read | thank | assort |

**Note**: To stress meaning of the suffixes put the meaning of the suffix on the pocket, i.e. ful - full of.



Structural Analysis

**Skill**: Suffixes (meaning)

Grades: All
Tests: 24, 37, 48

## WORD LIST

### Grade 1

| | | |
|---|---|---|
| ed | past | played |
| s | more than one | boys, dogs |

### Grade 2

| | | |
|---|---|---|
| ful | full of | careful, thankful, truthful |
| ing | action, result | going, feeling |
| ly | in a certain way | friendly, miserly, motherly |

### Grade 3

| | | |
|---|---|---|
| hood | state of | childhood, brotherhood, livelihood |
| less | without | hopeless, helpless |
| or | person or thing that | actor, inventor, elevator |

### Grade 4

| | | |
|---|---|---|
| ist | an agent of, one who does | artist, scientist |
| ment | result of | movement, nourishment |
| ness | being | sickness, kindness, happiness |
| some | tending to, causing | meddlesome, worrisome, lonesome |
| ward | in the direction of | backward, foreward |

### Grade 5

| | | |
|---|---|---|
| able, ible, ble | capable of being | washable, sensible<br>portable |
| er | more | softer, louder |
| er | person who | eater, dweller |
| er | person or being connected with | officer, villager |
| est | most | sweetest, meanest |

Suffixes (meaning) (Cont.)

## Grade 6

| | | |
|---|---|---|
| al | of, like, act of, related | arrival, medical, maternal |
| ance | state of being | disturbance |
| ant | being | vacant, colorant, militant |
| age | collection of, place for | baggage |
| ee | person who is affected by | appointee, absentee |
| en | make, made of | strengthen, wooden |
| ent | one who | president |
| et | little | leaflet |
| ify | make similar to | personify, magnify |
| ious, eous | abounding in | gracious, gorgeous |
| ish | like | foolish |
| ite | citizen of, a believer in | suburbanite |
| ize | to cause to, to be like | apologize, hypnotize |
| ory | a place or thing for | directory, factory |
| ous | full of | joyous, dangerous, cautious |
| ty | quality of being, times ten | nicety, safety, beauty, liberty, fifty, twenty, seventy |
| ure | denoting, action | pleasure |
| wise, ways | in a manner | crossways |
| y | composed of, resembling | icy, juicy |

Structural Analysis

Grades: 2, 3, 4
Tests: 24, 35, 45

Skill: Suffixes

## CONNECTIONS

Number of Players:

Materials: Nine 2½" x 6" colored tagboard strips, nineteen 2" x 3" colored tagboard strips, covered box or large envelope.

Procedure: Print the following suffixes on the larger tagboard strips, one per card, as illustrated below.

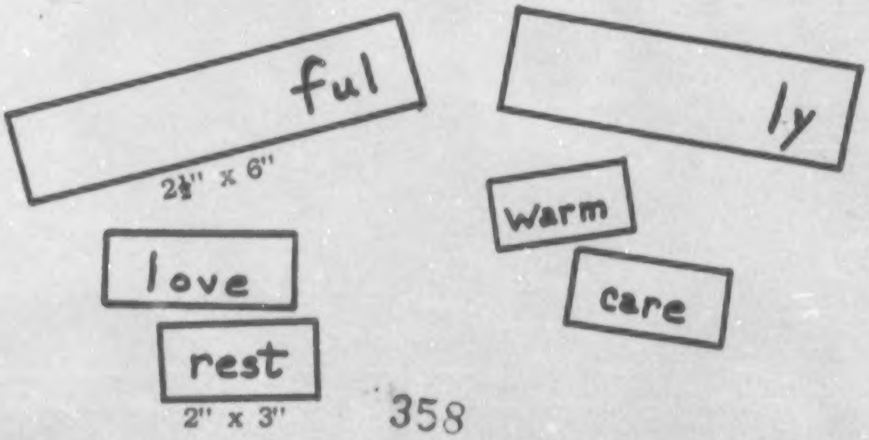
able
dom
er
est
ful
less
ly
ment
ness

Then print the following base words on the smaller cards, one per card, as illustrated below.

agree
care
dull
enjoy
fear
frank
free
love
peace
rest
rock
rough
sad
slow
smart
star
strong
warm
wise

Use a coding system so the activity will be self-correcting, such as colored dots.

Place suffix cards in a row. Stack the base word cards in a pile. Each child, in turn, draws a card from the base words and matches it with a suffix. The child then pronounces the word. The player turns both cards over to see that they have the same color on the back. If the word formed is a correct word, the child keeps the base card and scores a point. The child who forms the most words correctly wins the game.



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Structural Analysis **WORD LIST** Grades: All
Tests: 25, 50

**Skill**: Homophones (Homonyms)

# LEVEL I

## Grade 1

no, know
red/read
see/sea
to/too/two

## Grade 2

ant/aunt
ate/eight
be/bee
bear/bare
beet/beat
board/bored
break/brake
buy/by/bye
close/clothes

dear/deer
do/dew/due
eye/I/aye
fur/fir
here/hear
lead/led
maid/made
mail/male
meet/meat

new/knew
one/won
our/hour
pair/pare/pear
pail/pale
passed/past
pore/pour
rein/rain
rode/road

role/roll
sale/sail
scent/cent/sent
sew/so
son/sun
stair/stare
sum/some
tail/tale
their/there

# LEVEL III

## Grade 5

all/awl
bail/bale
base/bass
blue/blew
bread/bred
build/billed
ceiling/sealing
cellar/seller
cord/chord
cot/caught
fair/fare
flea/flee
flower/flour
flu/flew/flue

for/four/fore
fourth/forth
gate/gait
great/grate
hail/hale
hair/hare
hall/haul
heard/herd
heel/heal
him/hymn
hire/higher
horse/hoarse
in/inn
jam/jamb

loan/lone
night/nite/knight
none/nun
nose/knows
not/knot
pane/pain
peace/piece
peddle/pedal
pier/peer
plane/plain
principal/principle
rap/wrap
reed/read
right/write/rite

rung/wrung
sell/cell
seem/seam
seen/scene
site/sight
sore/soar
steak/stake
steal/steel
stock/stalk
wait/weight
waste/waist
way/weigh
we/wee
week/weak

Structural Analysis

Grades: All
Tests: 25, 50

**Skill**: Homophones (Cont.)

# LEVEL III

## Grade 6

air/heir
aisle/isle/I'll
balks/box
bawl/ball
beach/beech
bell/belle
bolder/boulder
bough/bow
capital/capitol
course/coarse
days/daze
doe/dough
duel/dual
earn/urn
feet/feat
gored/gourd
guest/guessed
hi/high
hole/whole
horde/hoard
lie/lye
lien,lean
morning/mourning
need/knead
neigh/nay
ore/oar
patience/patients
pause/paws
peek/peak
please/pleas
pray/prey
prince/prints
quartz/quarts
raise/raze
raiser/razor
sleigh/slay
soul/sole
straight/strait
sundae/Sunday
vane/vein/vain
vice/vise
wear/ware
weighed/wade
yolk/yoke

Structural Analysis

Grades: 4, 5, 6, 7, 8
Test: 25, 50

Skill: Homophones (homonyms)

NAME ______________________

In each row across, underline the words which are homophones (homonyms)

| | | |
|---|---|---|
| tern | turn | torn |
| heard | hoard | herd |
| for | fur | fir |
| board | broad | bored |
| mean | main | mane |
| throne | thrown | thorn |
| blew | blue | blow |
| bowl | bawl | ball |
| pare | peer | pair |
| buff | bough | bow |
| threw | through | though |
| flows | flower | flour |
| was | weighs | ways |
| eighty | eight | ate |
| plane | plain | plan |
| passed | post | past |

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Structural Analysis

Grades: 2, 3, 4, 5, 6
Tests: 25, 50

**Skill**: Homophones (homonyms)

NAME ______________________

Match the homophones (homonyms)

Remember homophones have different spellings and meanings but are pronounced the same.

heard
made
would
no
in
for
there
course
whole
break
sight
hair

coarse
their
maid
site
herd
brake
hare
wood
four
inn
know
hole

Structural Analysis

Grades: 1, 2, 3, 4
Test: 25

Skill: Homophones (Homonyms)

## MATCHING WORDS

Number of Players: Small skill group

Materials: Thirty-two 8" x 10" flash cards. Write words on the cards so there are sixteen pairs containing Homophones. See word list on pages 182 - 183.

Procedure: On the floor, mark a jumping area with sixteen squares, each square containing a homophone. Sixteen cards with the matching homophone are flashed, one at a time, by the teacher or leader. The child must say the word, jump in the square, retrieve the word, and say both of the words (i.e., bear on the flash card, bare on the floor).

Variation: Words can be spoken in a sentence either when presented or when matched.

Note: A commercial source of material for practice is *Reading Homonyms - Supportive Reading Skills* - Dexter & Westbrook Ltd., Baldwin, NY 11510.

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Structural Analysis

**Skill**: Heteronyms

Grades: 3, 4, 5, 6
Test: 51

## WORDS TO WATCH

**Number of Players**: Small skill group (teacher directed)

**Materials**: Each child should have a copy of the words listed below.

**Procedure**: Ask the students the following questions concerning the word list.

1. How are the words in each pair alike?
2. How may they be different?
3. In each pair, say each word differently.
4. Use each word in a sentence.

| | | | | |
|---|---|---|---|---|
| live<br>live | read<br>read | aged<br>aged | use<br>use | close<br>close |
| tear<br>tear | row<br>row | dove<br>dove | content<br>content | record<br>record |
| wound<br>wound | desert<br>desert | object<br>object | house<br>house | bass<br>bass |
| present<br>present | wind<br>wind | project<br>project | bow<br>bow | does<br>does |
| minute<br>minute | Polish<br>polish | sow<br>sow | excuse<br>excuse | conduct<br>conduct |

Structural Analysis

Grades: 4, 5, 6
Test: 51

Skill: Heteronyms

## WORD LIST IN CONTEXT

1. Uncle Bill has aged since he's been at the home for the aged.
2. If you bow too low you may lose your hair bow.
3. Do not close the door. It is too close to the end of the program.
4. She will conduct the visitor through the building.
   Wayne's teacher says his conduct at school is good.
5. Did you get the content of that letter?
   The baby was content to stay in his crib.
6. You should console her over the loss of her radio - TV console.
7. They are apt to convict him again because he was a convict for five years.
8. Would you desert a friend in the desert?
9. Does he see the does with their fawns?
10. The dove dove into the pond.
11. The icing is flavored with almond extract.
    Will the dentist extract the tooth?
12. Please excuse me. I forgot to bring an excuse from home.
13. When you house a dog you keep it in a house.
14. He is going to lead a party to prospect for lead ore.
15. Please buy a live dog to live in the little house.
16. What is the object of this game?
    How many object to the new plan?
17. Polish your shoes before you go to a Polish restaurant.
18. Present the present to the guest of honor.
19. The balcony will project over the pool.
    He is working on a new project.
20. You can read the same book I read yesterday.

Heteronyms (Cont.)

21. You rebel as if you were a rebel.

22. What you saw me record is called a record.

23. Separate the correct from the incorrect papers and put them in separate piles.

24. Another word for sewer is drain.

He is a sewer in a clothing factory.

25. Sow the seeds where the old sow won't dig them up.

26. Do not subject yourself to being the subject of a practical joke.

27. Don't tear the page.

A tear may fall because she is happy.

28. There is no use asking to use his new car.

29. He tried to invent a way to have the wind wind the clock.

30. The rose vine wound around the post.

It was a deep wound.

Some Other Heteronyms:

bass
contract
compact
defect
job
invalid
minute
permit
progress
refuse
row
suspect

Note: A commercial source of more material for practice is *Reading Heteronyms -- Supportive Reading Skills Series* - Dexter & Westbrook Ltd., Baldwin, NY 11510.

Structural Analysis

Grades: 4, 5, 6, 7, 8
Test: 52

**Skill**: Homographs

## WORD LIST OF MULTIPLE MEANINGS

| | |
|---|---|
| bank: | - the business of receiving, keeping, lending money |
| | - the office or building of such a business |
| | - a long mound or heap *i.e. as of ground or clouds* |
| | - a stretch of rising land at the edge of a river |
| | - a bench for rowers in a ship |
| benefit: | - great help *i.e. the trip was of great benefit to the people* |
| | - payments *i.e. unemployment benefits* |
| | - event to raise money *i.e. theatrical performance to benefit a worthy cause* |
| current: | - present day *i.e. current events* |
| | - circulating *i.e. as money* |
| | - commonly accepted *i.e. in current use* |
| | - a mass of liquid or gas in motion *i.e. current of air* |
| | - a flow of electric charge |
| duck: | - a swimming bird with webbed feet |
| | - a female duck as opposed to a drake |
| | - meat from the bird |
| | - to avoid *i.e. duck the issue* |
| | - to lower the body *i.e. duck under the shelf* |
| | - cloth somewhat like canvas but lighter in weight |
| lap: | - the level place formed by the front part of the thigh when a person is sitting down *i.e. hold on ones lap* |
| | - to fold or wrap *i.e. lap the shingles* |
| | - a single turn around or over something *i.e. a lap on a race track* |
| | - to take up by the tongue *i.e. the kitten will lap the milk* |
| | - to wash or splash with a light slappy sound *i.e. the lap of the waves* |
| period: | - an interval of time characterized by certain conditions or events *i.e. a period of six months, the dormant period* |
| | - a division of a school day *i.e. second period* |
| | - a punctuation mark *i.e.* . |

Multiple Meanings (Con't.)

principal:
- first or foremost in rank or degrees *i.e. the principal reason for going*
- a person who holds a leading position *i.e. especially head of a school*
- a main party in a business deal or a play
- a financial holding as distinguished from the interest or revenue earned
- a sum of money owed as a debt on which interest is calculated

require:
- to need, demand, call for *i.e. it requires a steady hand*
- to impose a regulation upon *i.e. the law requires a drivers license for anyone who drives*

suspend:
- to hang down *i.e. suspend a bell from the cow's neck*
- to cause to float *i.e. suspended in mid-air*
- to withhold or put off temporarily *i.e. suspend judgment*
- to deprive temporarily of a position *i.e. suspend a student*

ruled:
- to have political authority over; govern *i.e. ruled the country*
- to dominate *i.e. allowed his anger to rule his judgment*
- to declare judicially *i.e. the court ruled*
- to mark with straight parallel lines *i.e. ruled stationery*

run:
- to move on foot at a fast pace *i.e. run like a deer*
- to cause to move at this pace *i.e. to run the horse*
- to leave hastily *i.e. to have to run*
- to drive or chase *i.e. run the thief out of town*
- to compete for office *i.e. run for President*
- to move or pass quickly *i.e. a shiver might run through me*
- to pass through despite opposition or danger *i.e. run the blockade*
- to discharge fluid *i.e. smog made our eyes run*
- to have as a symptom *i.e. run a fever*

value:
- a suitable equivalent for *i.e. good value for your money*
- monetary or material worth *i.e. assess the value of a rare c*
- worth in usefulness or importance *i.e. the value of a good college education*
- the relative lightness or darkness of a color in a picture

Structural Analysis
**Skill**: Homographs

Grades: 3, 4, 5, 6, 7, 8
Test: 52

## WHICH MEANING

**Number of Players**: 2 to 4

**Materials**: Twenty 3" x 5" game cards, one 5" x 8" answer card, open-ended game board, see pages 253 - 268. Die or spinner and markers.

**Procedure**: See instructions for open-ended games page 251. Write each of the following sentences and possible definitions on a 3" x 5" card.

1. During the race Wayne was able to vault over two barrels.
   a. a storage room b. to jump
2. Don gave us a few pointers on self-defense.
   a. hints b. hunting dogs
3. There are 640 acres in a section.
   a. one square mile of land b. a slice or portion
4. How may I serve you?
   a. to put the ball into play in tennis b. to be useful or helpful
5. That ram weighs over three hundred pounds.
   a. a male sheep b. to push hard
6. Late into the night Cliff spun one yarn after another.
   a. material for knitting b. an interesting story
7. The hail was so big that it cracked two windows in the house.
   a. pieces of ice b. to shout to
8. The crane walked along the water's edge looking for food.
   a. a machine for lifting b. a large bird
9. Wayne watched the fish dart between the rocks.
   a. a pointed weapon b. to move quickly
10. Cliff needed a ladder to prune the top of the tree.
    a. a dried plum b. to trim
11. The judge was fair.
    a. clear and sunny b. just
12. The meal had four courses.
    a. paths of a river b. parts of a dinner
13. The hen was on the perch.
    a. fish b. resting place

Homographs (Cont.)

14. The grass grew by the spring.
a. water hole    b. season between winter and summer

15. The horse worked out on the track.
a. path laid out for racing    b. footprints

16. The doctor sent a bill for twenty-five dollars.
a. list of charges    b. beak

17. Be careful not to swallow the orange seeds.
a. take in, gulp down    b. bird

18. Wayne hung the new file over his workbench.
a. tool for smoothing    b. put away in order, a container

19. Don will steer the car through the tunnel.
a. guide    b. ox

20. Did the hunter stick the harpoon into the whale?
a. piece of wood    b. stab or pierce

Answer Key for Which Meaning

1. b
2. a
3. a
4. b
5. a
6. b
7. a
8. b
9. b
10. b
11. b
12. b
13. b
14. a
15. a
16. a
17. a
18. a
19. a
20. b

Note: A commercial source of more material for practice is *Reading Homographs -- Supportive Reading Skills Series* - Dexter & Westbrook Ltd., Baldwin, NY 11510

and

*Mastering Multiple Meanings -- Supportive Reading Skills Series* - Dexter & Westbrook Ltd., Baldwin, NY 11510.

**Structural Analysis**

**Skill**: Homographs

Grades: 3, 4, 5, 6, 7
Test: 52

## MAY I HELP?

**Number of Players**: 5

**Materials**: Twenty 3" x 5" game cards, one 5" x 8" card for an answer key. Open-ended gameboard, see pages 253 - 268. Die or spinner and markers.

**Procedure**: Select 20 words which are homographs. For each word selected write the two or three possible definitions on a numbered card. Prepare an answer key for each set with corresponding numbers.

The game is played by two sets of partners and an answer expert who uses the answer key and confirms the points earned. One partner draws a card, reads the definitions of the word, and before giving the answer may confer with his/her partner for help while the other team members confer and write their choice of a word that fits all definitions. If the team taking its turn is correct, it keeps the vocabulary card. One point is given for each correct solution by the team taking the turn. If the solution is incorrect, members of the other team may show their answer; if the answer is correct, they take the card and score a point. Partners alternately take-responsibility for team answers when it is their team's turn.

The game is over when all cards have been attempted once, when a specified time period has expired, or when a specified number of team turns has been taken.

| Examples of game cards: | Answer Key |
|---|---|
| 1. short informal letter<br>symbol for a tone on a music staff<br>paper relating to the owing of money | note |
| 2. to move on foot<br>in baseball; to advance on four balls<br>a particular station in life | walk |

3" x 5" card

short informal letter

symbol for a tone on a music staff

paper relating to the owing of money

1

Game Card #One

etc.

5" x 8" Answer Card

| | | | |
|---|---|---|---|
| 1. | note | 11. | |
| 2. | walk | 12. | |
| 3. | | 13. | |
| 4. | | 14. | |
| 5. | | 15. | |
| 6. | | 16. | |
| 7. | | 17. | |
| 8. | | 18. | |
| 9. | | 19. | |
| 10. | | 20. | |

**Study Locational Skills**

Grades: 1, 2, 3
Test: 26

**Skill**: Table of Contents

NAME_______________________

Page 8

**TABLE OF CONTENTS**

| | |
|---|---|
| Mom | 4 |
| Go Home | 6 |
| A Duck | 8 |
| Jill and Cliff | 11 |

○ Mom
○ Go Home
○ A Duck
○ Jill and Cliff

Page 11

**TABLE OF CONTENTS**

| | |
|---|---|
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○ Mom
○ Go Home
○ A Duck
○ Jill and Cliff

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| The Present | 16 |
| He Came Back | 22 |
| Rico and Wayne | 30 |

○ Yellow and Blue
○ The Present
○ He Came Back
○ Rico and Wayne

Page 16

**TABLE OF CONTENTS**

| | |
|---|---|
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| The Present | 16 |
| He Came Back | 22 |
| Rico and Wayne | 30 |

○ Yellow and Blue
○ The Present
○ He Came Back
○ Rico and Wayne

Study Locational Skills

Grades: 2, 3, 4, 5, 6
Tests: 26, 42

Skill: Table of Contents

## TABLE OF CONTENTS

Number of Players: 4

Materials: A 5" x 8" card with the following Table of Contents written on it. Laminate for durability

Table of Contents

| | |
|---|---|
| Big Box | 7 |
| One Sad Day | 11 |
| The Tiny Dog | 14 |
| Jill and Carlos' Day at the Zoo | 22 |
| The Bee and the Ant (poem) | 26 |

One open-ended gameboard, pages 253-268, fifteen 3" x 5" cards, one 5" x 8" answer card, die or spinner, and markers.

Procedure: See instructions for open-ended game, page 251. The following sentences need to be written on 3" x 5" cards.

1. On which page does "The Tiny Dog" begin? ____________
2. On which page does a story about a big box begin? ____________
3. On which page does a story about a pet begin? ____________
4. On which page does a story begin that has the shortest title? ____________
5. What story begins on page 11? ____________
6. Which story has the longest title? ____________
7. How many stories are in your book? ____________
8. On which page does a story about a boy and a girl begin? ____________
9. On which page does the story about a bad day begin? ____________
10. Three stories tell about the animal world. On which pages do they begin? ________
11. On which page does the story begin that tells about something big? ____________
12. On which page does the story about the zoo begin? ____________
13. On which page does the story start that is about an ant? ____________
14. Someone cried in one story, on which page does the story begin? ____________

**

Study Locational Skills

**Skill**: Guide Words

Grades: 3, 4, 5, 6, 7, 8
Test: 53

## GUIDE WORDS

**Number of Players**: 4

**Materials**: One open-ended gameboard, pages 253-268, eighteen 3" x 5" game cards, one 5" x 8" answer card, dice or spinner and markers, one instructors card.

**Procedure**: See instructions for open-ended games page 251. On the instruction card include the following: "Look at the top two words. Imagine that these are guide words at the top of a dictionary page. Indicate which of the word(s) under them you would find on that page.

1. cellular-center
   A. cement
   B. ceiling
   C. cello
   D. central
2. meat-music
   A. mail
   B. meek
   C. mate
   D. mute
3. ocean-of
   A. object
   B. often
   C. odd
   D. ouch
4. above-address
   A. art
   B. accident
   C. after
   D. adhere
5. honest-hotel
   A. howl
   B. hook
   C. hobby
   D. house
6. darken-daze
   A. debt
   B. decoy
   C. dame
   D. dawn
7. jingle-journal
   A. jump
   B. joust
   C. jelly
   D. jolt
8. mystery-naive
   A. mustard
   B. narrate
   C. myth
   D. mysterious
9. Eden-Egypt
   A. erase
   B. elegant
   C. echo
   D. effect
10. grind-grove
    A. greedy
    B. grip
    C. grow
    D. grass
11. fireside-flag
    A. friend
    B. flash
    C. firm
    D. fine
12. diver-doctor
    A. dove
    B. divine
    C. doctrine
    D. divan
13. summer-superior
    A. sulk
    B. supper
    C. sundown
    D. success
14. undertook-unfaithful
    A. uncover
    B. uniform
    C. unearth
    D. unknown
15. prefer-produce
    A. predict
    B. praise
    C. product
    D. privilege
16. reason-refresh
    A. rebel
    B. regal
    C. reality
    D. rayon
17. rolling-rotate
    A. rock
    B. road
    C. roam
    D. root
18. waitress-want
    A. waffle
    B. waltz
    C. warning
    D. waiting

Name________________________

Grades: 4, 5, 6, 7, 8
Test: 53

## GUIDE WORDS

Directions: Look at the top two words. Imagine those are guide words at the top of a dictionary page. Which of the word(s) below would you find on that page? Mark your answer on an answer sheet. The first one is done for you.

---

1. halter-hand
   - A. habit
   - B. halt
   - [✓ C.] hammer
   - D. handball

2. loser-low
   - A. live
   - B. love
   - C. loose
   - D. lyre

3. stew-stump
   - A. stamp
   - B. stove
   - C. style
   - D. stale

4. pram-preview
   - A. pray
   - B. printer
   - C. probe
   - D. practice

5. also-amble
   - A. amaze
   - B. allow
   - C. ambush
   - D. already

6. bomb-bow
   - A. boy
   - B. bone
   - C. boat
   - D. box

7. isolate-its
   - A. itch
   - B. iron
   - C. isle
   - D. ivory

8. bulge-bundle
   - A. bumper
   - B. bustle
   - C. buoy
   - D. buck

9. keeping-khaki
   - A. keynote
   - B. knave
   - C. keel
   - D. kindness

10. Chinese-choppy
    - A. chisel
    - B. chiefly
    - C. clarify
    - D. cinder

11. igloo-impair
    - A. inaction
    - B. ice
    - C. ill
    - D. idea

12. nice-nine
    - A. ninth
    - B. nodule
    - C. newspaper
    - D. night

13. limpet-lines
    - A. linear
    - B. liken
    - C. light
    - D. link

14. potion-poverty
    - A. practical
    - B. power
    - C. post
    - D. pouch

15. date-daylight
    - A. dash
    - B. dawn
    - C. daytime
    - D. deal

16. avail-award
    - A. awake
    - B. away
    - C. awful
    - D. automat

17. reopen-report
    - A. repose
    - B. reptile
    - C. rent
    - D. repeal

18. mad-magistrate
    - A. macron
    - B. magic
    - C. machine
    - D. manner

Study Locational Skills

Grades: 4, 5, 6, 7, 8
Test: 54

**Skill**: Index

## ON WHICH PAGE?

**Players**: 4

**Materials**: Open-ended gameboard. See pages 253 - 268.
Twenty 3" x 5" cards; one 5" x 8" answer card.

A large card that has the following index listing:

| | |
|---|---|
| Alphabetical Order | 77, 106 |
| Autobiography | 46, 313-315 |
| Choral Speaking | 79, 136-137 |
| Dictionary | 106, 197, 208 |
| Encyclopedia | 89, 106-107 |
| Library | 110, 162, 321 |
| Paragraph: | |
| defined | 112 |
| word bridges | 113, 311 |
| models | 308, 309 |
| Question Marks | 8, 9, 206, 298 |
| Spelling | 197, 202 |

**Procedure**: See instructions for open-ended games, page 251.

Questions on game cards such as:

1. On which page(s) do you find out about an author card?
2. On which page(s) do you learn when a question mark is used?
3. On which page(s) do you find out about what words you use in bridging paragraphs?
4. On which page(s) might you learn about spelling demons?
5. Information on alphabetizing to the fourth letter is found on which page(s)?
6. To find out research information about Columbia, you would look on which page(s)?
7. Information on Verse Choir might be found on which page(s)?
8. Some punctuation information would be found on which page(s)?
9. Information on Guide Words would be on which page(s)?
10. Instruction on dropping the "e" and adding "ing" might be found on which page(s)?

Study Locational Skills

Grades: 4, 5, 6, 7, 8
Test: 54

# INDEX

Name____________________

Beside the questions below is part of an index from a book. Use the index to find the answers to the questions. Write the page number(s) on an answer sheet. Number 1 has been done for you.

1. To what page(s) would you turn to find out about bamboo as a food? 18
2. Which pages give information about the size of the playing area in hockey? ________
3. How many pages tell how kites are used against an enemy? ________
4. To which page(s) would you turn to find out how kites are used for fun? ________
5. What page(s) might give information using bamboo in furniture? ________
6. If you wanted to find out when hockey was first played you would look at which page(s)? ________
7. If you were planning to plant bamboo in your small garden you would probably get help by reading page(s) ________
8. Part of the equipment used in hockey is probably discussed on page ________.
9. What page(s) would you consult to find out about the proper way to use the hockey stick? ________
10. To find out how many playing periods there are in hockey you would look on page(s) ________.
11. To find out the best kind of wood to use in a kite you would see page(s) ________.
12. The history of hockey has information on how many pages? ________
13. List the page(s) that would most likely have information on making a kite. ________
14. List the page(s) that would most likely tell how to use kites. ________
15. Which page(s) would most likely describe a part of a bamboo plant? ________
16. The duties of the hockey referees are probably described on page(s) ________.

Bamboo
as a vegetable,18
hollow stem of,17
rapid growth of,20-22
used to make chairs,19

Hockey
history,32-35,37
officials,42,43,45-47
playing time,44,47,48
puck,49,50,52
rink,53-55,57
skills,36,38,39,41

Kites
cardboard, paper,25-28
cloth,24
frame of,23
use in games,29-30
use in war,31

Study Locational Skills

Grades: 3, 4, 5, 6
Test: 54

**Skill**: Index

## INDEX

**Number of Players**: 4

**Materials**: A large card that has the following index listing.

deer, 40, 80-81
dogs, 9, 28,
ears, 37-41
eggs, 70, 87
fire, 47-60
fireplaces, 57
fish, 41, 171
food, 56
forest fire, 74
foxes, 67
frogs, 41, 86
fruit, 20-31
goats, 176
grass, 175-188
horses, 37, 67
insects, 41, 74
light, 10-18
moon, 14-17

Open-ended game board. See pages 253-268, twenty 3" x 5" cards, one 5" x 8" answer card, die or spinner, and markers.

**Procedure**: See instructions for open-ended games page 251.

Words and phrases for game cards

1. fireplaces
2. goats
3. forest fires
4. apples, berries, peaches
5. care of the ears
6. life of a goldfish
7. use of eggs
8. why milk is good for you
9. foxes
10. fruit
11. horses
12. light
13. bees, ants, flies
14. moon
15. fish
16. grass
17. deer
18. fires
19. frogs
20. dogs

Answer Card

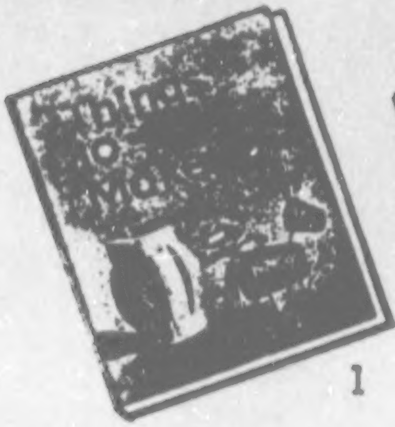
1. page 57
2. page 176
3. page 74
4. pages 20-31
5. pages 37-41
6. pages 41, 171
7. pages 70 87
8. page 56
9. page 67
10. pages 20-31
11. pages 37, 67
12. pages 10-18
13. pages 41, 74
14. pages 14-17
15. pages 41, 171
16. pages 175-188
17. pages 40, 80-81
18. pages 47-60
19. pages 41, 86
20. pages 9, 28

Study Locational Skills

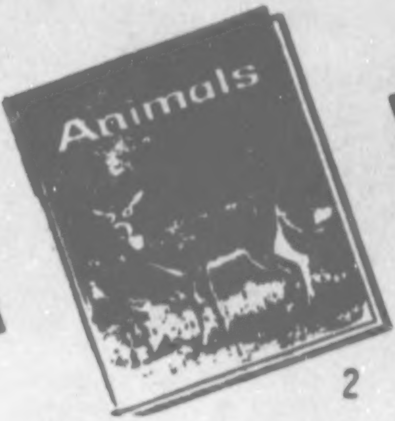
**Skill**: Reference

Grades: 2, 3, 4
Test: 55

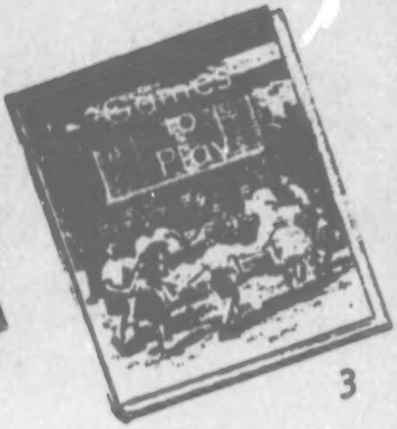
## WHICH BOOK?



1



2



3

1. You want to find out how to make a kite. In which book would you look?

   1 2 3

2. You want to find out how to play ball. In which book would you look?

   1 2 3

3. You want to find out how to make a doll. In which book would you look?

   1 2 3

4. You want to find out how to play kick ball. In which book would you look?

   1 2 3

5. You want to find out what bears eat. In which book would you look?

   1 2 3

6. You want to find out how to make a toy. In which book would you look?

   1 2 3

Study Locational Skills

Grades: 4, 5, 6, 7, 8
Test: 55

Name ______________________________

## REFERENCE SKILLS

DIRECTIONS: Read each question. Then find the best answer to each question. Mark your answer on an answer sheet.

1. Where would you look to find out what countries are on the equator?

A. A map of Europe
B. A globe
C. A mathematics book
D. A language book

2. Where would you look to find international records in skiing events?

A. A mathematics book
B. An atlas
C. An almanac
D. A globe

3. Where would you look to find the meaning of the word excitement ?

A. A science book
B. A geography book
C. A mathematics book
D. A dictionary

4. Where would you look to find out what date Herbert Hoover first became president?

A. A geography book
B. A science book
C. A history book
D. A language book

5. Where would you find information about the boyhood of President John Adams?

A. A geography book
B. A dictionary
C. An encyclopedia
D. A mathematics book

6. Where would you look to find out what language is spoken in Holland?

A. A globe
B. A science book
C. An encyclopedia
D. A mathematics book

7. Where would you look to find out how to get from one city to another?

A. A dictionary
B. A map
C. A mathematics book
D. A history book

8. Where would you look to find out how to measure a farm for putting up a fence?

A. A geography book
B. A health book
C. A mathematics book
D. A science book

9. If you wanted to locate a map of eastern Africa, which of these would you use?

A. A mathematics book
B. A dictionary
C. An atlas
D. A history book

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(Cont.)

## REFERENCE SKILLS

10. Where would you look to find out what the capitol of Germany is?

A. A science book
B. A language book
C. A mathematics book
D. An encyclopedia

11. Where would you look to find some information about the planets?

A. A history book
B. A health book
C. A mathematics book
D. A science book

12. Where would you look to find out the number of people who live in San Francisco?

A. A health book
B. A globe
C. An almanac
D. A science book

13. Where would you look to locate a history of aircraft manufacturing?

A. A dictionary
B. An atlas
C. An almanac
D. An encyclopedia

14. Where would you look to find out where the largest rivers of Brazil are located?

A. A language book
B. An atlas
C. A dictionary
D. A mathematics book

15. Where would you look to find out which planet is closest to the earth

A. A mathematics book
B. A globe
C. A history book
D. A science book

16. Where would you look to find what countries are within the Arctic Circle?

A. A mathematics book
B. A map of South America
C. A language book
D. A globe

17. Where would you look to find out when and where the Gettysburg Address was written?

A. A history book
B. A mathematics book
C. A science book
D. An atlas

18. Where would you look to find out why sunlight is important to flowers?

A. A map of Italy
B. A science book
C. A geography book
D. A history book

19. Where would you look if you wanted to know where deserts are located?

A. A health book
B. A mathematics book
C. A geography book
D. A science book

20. Where would you look to find out when the next full moon will be?

A. A current almanac
B. A mathematics book
C. A history book
D. A dictionary

Study Locational Skills

Grades: 4, 5, 6, 7, 8
Test: 55

**Skill**: Reference

## OPEN-ENDED GAME

**Players**: 4

**Materials**: One open-ended gameboard. See pages 253 - 268.
Eighteen 3" x 5" game cards
One 5" x 8" answer card
Die or spinner and markers

**Procedure**: See instructions for open-ended games, page 251.
Write one of the following sentences and accompanying choices on each 3" x 5" game card. Write the answer to each question on a 5" x 8" card.

1. Where would you look to find out how to measure your playroom floor for a new rug?

A. A geography book
B. A mathematics book
C. A dictionary
D. An atlas

2. Where would you look to find baseball batting averages?

A. An almanac
B. A dictionary
C. An encyclopedia
D. An atlas

3. Where would you look if you wanted to know what nylon is made of?

A. An encyclopedia
B. A history book
C. A globe
D. An atlas

4. Where would you look if you wanted to know the course of the Mississippi River?

A. A language book
B. An atlas
C. A history book
D. A songbook

5. When you visit a new city, what would you use to find out how to get from the airport to the beach?

A. An encyclopedia
B. A science book
C. A map
D. A mathematics book

6. Where would you look to find out how many planets are in our solar system?

A. A science book
B. A history book
C. A geography book
D. A health book

7. Where would you look to find the syllable division of the word advise?

A. A dictionary
B. An atlas
C. An almanac
D. An encyclopedia

## Study Locational Skills (Cont.)

8. Where would you look to find some facts about Abraham Lincoln?

A. An encyclopedia
B. An atlas
C. A dictionary
D. A mathematics book

9. Where would you look to locate a map of the islands of the Caribbean?

A. A history book
B. A dictionary
C. A bibliography
D. An atlas

10. Where would you look to find out the date that World War I ended?

A. A history book
B. An atlas
C. A geography book
D. A science book

11. Where would you find out the name of the man who was president right after Harry Truman?

A. A language book
B. An atlas
C. A dictionary
D. An enclyclopedia

12. Where would you look to find the author of *Charlotte's Web*?

A. An encyclopedia
B. The card catalog
C. A dictionary
D. Guiness Book of World Records

13. Where would you look to find a synonym for happy ?

A. A history book
B. An atlas
C. A thesaurus
D. A science book

14. Where would you look to find out whether Baltimore is north or south of Korea?

A. A map of North America
B. A map of Korea
C. A history book
D. A globe

15. Where would you look to find out how to change yards to meters?

A. A geography book
B. An atlas
C. A mathematics book
D. A map

16. Where would you look to find the meaning of the word laureate ?

A. A dictionary
B. An encyclopedia
C. A globe
D. Newsweek magazine

17. Where would you look to find out how to measure the area of a circle?

A. A geography book
B. An atlas
C. A history book
D. A mathematics book

18. Where would you look to find the most home runs hit?

A. A dictionary
B. The card catalog
C. Guiness Book of World Records
D. An atlas

Study Locational Skills

Grades: 5, 6, 7, 8
Test: 56

**Skill**: Parts of a Book

## PICK THE PARTS

**Number of Players**: 2 to 4

**Materials**: Open-ended game board, pages 253 - 268 , twenty 3" x 5" game cards, one 5" x 8" answer card, die or spinner and markers.

**Procedure**: See instructions for open-ended games, page 251. Write one of the following sentences and accompanying choices on each 3" x 5" game card.

1. The name of a book would be found on the ___________.

A. title page
B. glossary
C. chapter title
D. table of contents

2. Which of the following is found in every book?

A. glossary
B. text
C. appendix
D. index

3. The publisher of a book can be found on the ___________.

A. preface
B. title page
C. glossary
D. appendix

4. A list of the chapter titles of a book would be found in the ___________.

A. appendix
B. table of contents
C. title page
D. glossary

5. The page numbers of an alphabetical list of topics can be found in the ___________.

A. index
B. appendix
C. glossary
D. bibliography

6. To find out what a chapter will cover you would look at the ___________.

A. chapter title
B. glossary
C. index
D. title of the book

7. At the beginning of each section of a book you will find a(n) ___________.

A. index
B. title page
C. appendix
D. chapter number or title

8. To quickly locate certain information in a book you might look at the ___________

A. bibliography
B. index
C. appendix
D. glossary

**

Pick the Parts (Continued)

9. In the very beginning of a book you usually find the ___________.

A. appendix
B. title page
C. glossary
D. index

10. The ___________ is usually at the beginning of a book.

A. foreword
B. index
C. bibliography
D. appendix

11. The ___________ is usually at the end of a book.

A. table of contents
B. title page
C. glossary
D. preface

12. The ___________ of a book contains an alphabetical list of topics covered in the book, and their location.

A. appendix
B. glossary
C. index
D. foreword

13. The longest part of a book is usually the ___________.

A. appendix
B. preface
C. index
D. text

14. To find the author of a book you would look at the ___________.

A. copyright page
B. title page
C. glossary
D. table of contents

15. A table or graph not included in the text of a book would be found in the ___________.

A. glossary
B. preface
C. appendix
D. copyright

16. At the very end of a book you might find the ___________.

A. appendix
B. table of contents
C. title page
D. preface

17. The list of books which an author has written would be found in a ___________.

A. glossary
B. bibliography
C. appendix
D. text

18. To find when a book was published you would look at the ___________.

A. title page
B. glossary
C. copyright page
D. foreword

19. The meanings of special terms used in the book are found in the ___________.

A. appendix
B. index
C. glossary
D. preface

Study Locational Skills

Grades: 5, 6, 7, 8
Test: 56

Name ______________________

## PARTS OF A BOOK

Skill: Parts of a Book

DIRECTIONS: Read each sentence, then find the word(s) that best complete(s) each sentence. Mark that answer on an answer sheet.

1. If the author wants to tell you why the book was written it would be included in the ____________.
   A. title page
   B. index
   C. glossary
   D. preface

2. The contents of a book are listed in order of appearance in the ____________.
   A. index
   B. glossary
   C. appendix
   D. table of contents

3. The page numbers of chapter titles would be found in the ____________ of a book.
   A. title page
   B. index
   C. appendix
   D. table of contents

4. The ____________ contains extra information not found in the main part of the book.
   A. copyright
   B. text
   C. index
   D. appendix

5. To find the location of a very specific subtopic in a book you would look in the ____________.
   A. index
   B. appendix
   C. forward
   D. table of contents

6. Which of the following is not organized in alphabetical order?
   A. index
   B. appendix
   C. glossary
   D. bibliography

7. To briefly find what is written about in a book you would look at the ____________.
   A. glossary
   B. text
   C. table of contents
   D. appendix

8. To find the meaning of an abbreviation used in a book you would look in the ____________.
   A. table of contents
   B. index
   C. appendix
   D. glossary

9. The publisher of a book can be found on the ____________.
   A. preface
   B. title page
   C. glossary
   D. appendix

# STUDY LOCATIONAL SKILL

## ANSWER KEYS

### Table of Contents — Page 196

1. 14
2. 7
3. 14
4. 7
5. One Sad Day
6. Jill and Carlos' Day at the Zoo
7. 5
8. 22
9. 11
10. 14, 22, 26
11. 7
12. 22
13. 26
14. 11

### Guide Words — Page 197

1. A
2. B
3. C
4. B
5. B
6. D
7. D
8. C
9. D
10. B
11. C
12. B
13. C
14. C
15. D
16. A
17. D
18. B

### Guide Words — Page 198

1. C
2. B
3. B
4. A
5. A
6. B
7. A
8. A
9. A
10. A
11. C
12. D
13. A
14. D
15. B
16. A
17. D
18. B

### On Which Page — Page 199

1. 110, 162, 321
2. 8, 9, 206, 298
3. 113, 311
4. 197, 202
5. 77, 106
6. 89, 106-107
7. 79, 136-137
8. 8, 9, 206, 298
9. 106, 197, 208
10. 197, 202

Answer Keys (Cont.)

### Index Page 200

1. 18
2. 53-55, 57
3. 1
4. 29-30
5. 19
6. 32-35, 37
7. 20-22
8. 49, 50, 52
9. 36, 38, 39, 41
10. 44, 47, 48
11. 23
12. 5
13. 25-28, 24, 23
14. 29-30, 31
15. 17
16. 42, 43, 45-47

### Reference Skills Pages 203-204

1. B
2. C
3. D
4. C
5. C
6. C
7. B
8. C
9. C
10. D
11. D
12. C
13. D
14. B
15. D
16. D
17. A
18. B
19. C
20. A

### Open-ended Games Pages 205-206

1. B
2. A
3. A
4. B
5. C
6. A
7. A
8. A
9. D
10. A
11. D
12. B
13. C
14. D
15. C
16. A
17. D
18. C

### Pick the Parts Pages 207-208

1. A
2. B
3. B
4. B
5. A
6. A
7. D
8. B
9. B
10. A
11. C
12. C
13. D
14. B
15. C
16. A
17. B
18. C
19. C

### Parts of a Book Page 209

1. D
2. D
3. D
4. D
5. A
6. B
7. C
8. D
9. B

# UNINTERRUPTED SUSTAINED SILENT READING

USSR is an acronym for Uninterrupted Sustained Silent Reading. During USSR everyone in the room reads silently, without interruption, for a given length of time.

Appropriate practice is essential to the refinement and extension of reading skills. Systematic skill instruction is necessary, but without application few skills really develop sufficiently to be useful to the learner. If our goal is to teach children to be readers, then students must be given time to practice reading. One of the highest priorities in any instructional program for producing readers is simply practicing the reading which children have learned. It is practice that makes the difference!

Following are some suggestions to facilitate the program of Uninterrupted Sustained Silent Reading.

1. Each individual (student, teacher or guest) selects a book of his or her own choice.
2. A reading period of 5, 10, 15, 20 or 30 minutes should be provided without interruption. If this is an entirely new activity for the students, begin with a very short period of time and gradually make it longer.
3. No one may exchange books during the reading time — therefore, the book must be chosen wisely.
4. No one may talk or do anything which might prevent others from sustaining themselves for the period of time chosen. This includes asking for help with a word.
5. No book reports, tests or worksheets are used. However, a later time may be set aside for book sharing during which children who wish may share a particularly exciting incident, or recommend a book or story to their classmates.
6. The teacher should announce the beginning of the USSR period. The teacher introduces the period the first few sessions, as children become accustomed to the activity, they will look forward to USSR time with enthusiasm. At the end of the period, the teacher should allow readers to finish the page or chapter if they so desire.

Some teachers find that allowing ten or fifteen minutes as students return to the room after lunch or after recess each day is an excellent time for Uninterrupted Sustained Silent Reading.

In order to show students the importance given to reading, schools might want to initiate a program of whole school reading time. Once a week, at a predetermined time, everyone in the school reads. The secretary, custodian, principal, and guests all go into classrooms and participate in the USSR along with the children.

## USING EVERYDAY REFERENCES

Through the use of everyday references such as the T.V. guide, newspaper, telephone book and merchandise catalogs, many of the basic reading skills can be taught meaningfully. Using materials of this type can help students develop an awareness that reading can be both useful and fun.

Materials: Twelve 5" x 8" cards

Procedure: Make task cards on which you have written the following tasks: Answers may be put on the back of the task cards or a separate answer card may be used.

### TELEPHONE BOOK

TASK CARD 1
Area Codes

Look at the area code map of the United States.

What state would you live in if your area code was 208, 913, 703?

What time zone would you live in if your area code was 808, 303, 913, 304, 506?

TASK CARD 2
Table of Contents

What page would you turn to if you wanted to:

a. Find out how to call another party on your line.

b. Find out the correct time.

c. Learn the weather forecast.

d. Report an out-of-service number.

e. Ask a question about your bill.

f. Report annoying calls.

TASK CARD 3
Long Distance Call Guide

How much would it cost you to make a three minute call from your city to Baltimore:

a. MON. - FRI. 8 a.m. -- 5 p.m.

b. Any night from 11 p.m. -- 8 a.m.

If you dialed direct, how much would it cost?

If you asked the operator?

Which would be the cheapest?

390

TASK CARD 4
Circular map showing areas listed in this directory

How many local areas are within your calling area?

If you wanted to call ______________, would it be a toll call?

TASK CARD 5
General Information

What should you do if you receive anonymous telephone calls?

What does it mean when you hear a "beep" tone every 15 seconds?

TASK CARD 6
White Pages

If you are looking for Robert Smith's number, would you find it before or after Louis Smith's?

If you are looking for Harold T. Jones' number would you look before or after Harold M. Jones?

TASK CARD 7
Yellow Pages

Under which main heading might you find:

a. A bicycle shop to repair your bike?

b. Specialists in swimming pool lighting?

c. A health salon?

d. Chinese carry-out food service?

e. A cab to take you to the airport?

## NEWSPAPERS

TASK CARD 8
Advertisements

Select similar ads from three different stores.

You want to purchase a stereo radio and record player. Where will you get the most for your money?

Select five grocery store ads.

Plan a meal for five people. You have $10 to spend. What will you purchase? Where will you purchase it? Why? List your items.

Where can you buy one dozen oranges for the lowest price?

TASK CARD 9
Classified Advertising

As a general office worker or gal Friday, where can you make the most money?

What qualifications do you need?

TASK CARD 10
Front Page News Story

Read a front page news story. Answer the following questions: who, what, where, why, when and how.

How far did you have to read before finding the answers?

Can you find any opinions in this story?

TASK CARD 11
Weather Map

Find the warmest city in the U.S. yesterday; the coldest.

When does the sun/moon rise and set?

Which city in the United States had the most precipitation yesterday?

Which city in the world had the most precipitation yesterday?

## CATALOGS

TASK CARD 12
Sears or Montgomery Wards Catalogs

Fill out an order form. Print your name, address and phone number. Order the following items:

2 pairs boys slacks
1 skateboard
1 pair of cowboy boots
3 records

Indicate on the order form the page you found each item; the price of each item; the combined price; and the catalog number of each.

Note: This is an excellent reinforcement center activity. See page 269.

## NEWSPAPER TASK CARDS

Materials: Newspaper, six 5" x 8" cards with the following activities.

Procedure: Using the newspaper grocery ads in your local newspapers, make task cards which direct students to do one of the following:

### TASK CARD 1

See how many words in the ad you can find from "A to Z". List the words in alphabetical order. Example: Apples, beans, cookies....

### TASK CARD 2

Classify words under the following topics: MEATS, VEGETABLES, FRUIT, MILK PRODUCTS. Example: Under MEATS: Pork roast, hamburger....

### TASK CARD 3

List some abbreviations which are used. Find out what they mean. You may want to use the dictionary.

### TASK CARD 4

Are there any coupons in the ad? List some. Is there a limit on the number of items you can purchase with one coupon? What is the limit?

### TASK CARD 5

Does the ad list stores in the area? If so, which is the closest one to your home?

### TASK CARD 6

You have $10 to spend on anything you might wish to buy. Look through the ad and list items you might purchase. Add them up.

## NEWSPAPER ACTIVITIES

**Materials**: Newspaper clippings mounted on colored tagboard and laminated; four 5" x 8" task cards with instructions.

**Procedure**: This activity is based on clippings taken from various parts of the newspaper: news stories, captioned photographs, advertisements. Prepare task cards with activities similar to the following. The student selects an activity card and appropriate materials from a file box, searches for the information specified on the activity card and records the answers on paper. When work is completed, the student checks the answers with answers on the back of the task card. Teachers will need to make the answer cards as answers will vary depending on the ad used.

TASK CARD 1

Merchandise Ads

Directions: If the information is not available in the ad, please write "No Information."

1. Article advertised:
2. Price of item:
3. Sizes:
4. Colors available:
5. Name of the store where items can be purchased:
6. Address or location of store:
7. Store hours:
8. List of store locations:

TASK CARD 2

Classified Ads: Employment

Directions: Find four interesting jobs and give the following information for each job:

1. Job title:
2. Description of job:
3. Experience needed:
4. Salary:

TASK CARD 3

Classified Ads: Automobiles

1. I would like to buy a Ford, about a '68, '69, or '70. See if you can find me 2 or 3 good deals. List year, equipment, price and seller.
2. Can you find a Jeep for sale for a friend of mine? Please include all the information for my friend.
3. Find three ads for foreign cars. Give the make of car, price, and the phone number if given.

TASK CARD 4

The Four W's

Directions: Choose a newspaper article or photograph from the file. Read the story and answer these questions:

Title of the newspaper story:
1. WHAT was the story about? (main idea)
2. WHO were the people or things involved in the story?
3. WHERE did the story take place?
4. WHEN did the story happen?

Application of Skills Grades: 4, 5, 6, 7, 8

NAME ______________________________

## THE TELEPHONE BOOK

Materials: Four 5" x 8" task cards, one telephone directory

Procedure: Make task cards with the following activities. Answer may be put on the back of the task cards or a separate answer card can be used.

TASK CARD 1

1. On what page in the "white pages" will you find your family's name?

2. A thief is breaking into your garage. Find the number of the police department.

3. You need the fire department to put out a fire in your neighbor's garage. What number do you call?

4. A neighbor has just seriously cut his foot while using the lawn mower. Find the emergency ambulance number.

TASK CARD 2

5. What area does the phone book cover?

6. What one number can you always call in case of any emergency?

7. What is the area code for (your city)?

8. What is the area code for ____________________________________?

TASK CARD 3

9. What is the difference between the white pages and the yellow pages?

10. In which order are the names in the white pages listed?
    a) chronological b) numerical c) alphabetical

11. Name two stores found in the yellow pages that sell stereo records.

12. Are "zip codes" found in the beginning, middle or end of the phone book?

TASK CARD 4

13. Name three places in the yellow pages you could take your bicycle to be repaired.

14. Using the phone book, find the address and phone number of your school. Can you find your home phone number and address?

15. What is the number you dial for "directory assistance?"

16. What kind of information will directory assistance give you?

## USING THE TELEPHONE BOOK

**Materials**: Ten 5" x 8" task cards, one telephone directory

**Procedure**: Write the following tasks on 5" x 8" cards. Answers may be put on the back of the task cards, or a separate answer card may be used.

### TASK CARD 1

By looking through the phone book, you can tell that it is organized in ________________________ order.

Look at the inside front cover. What single number do you dial in case of a serious emergency?

If you lived in ________________________, what number would you dial if you wanted to report a fire?

What page would you turn to in order to find:
a) a zip code map?
b) how to make a collect call?
c) how to dial long distance?
d) what number you would dial to get repair service?

### TASK CARD 2

Turn to the page labeled Types of Calls.

If you were involved in big business, how would you go about arranging:
a) for a conference call?
b) to place a person-to-person call? Why would you place a person-to-person call? Under what circumstances would it be smarter to make a person-to-person call than a station-to-station call?
c) to make calls to autos, trucks, trains, aircraft and boats?

### TASK CARD 3

Turn to the page labeled Long Distance Dialing.
The United States is divided up by Area Codes. Look at the map of California on this page. Give the area code for each city below:

San Francisco
Los Angeles
San Diego
Santa Barbara
Sacramento

397

## TASK CARD 4

If you dialed the wrong number, what would you do to make sure you did not get charged for the call?

What happens to the cost of a phone call at night (after 6:00 p.m.)?

What costs more, a "station call" (when you dial directly from your phone) or an "operator assisted call" (when you dial "0" and the operator gets the number for you)?

## TASK CARD 5

How much would it cost to dial:

a) a 3-minute unassisted call to Yuma, Arizona between 8:00 a.m. and 6:00 p.m. on Saturday?
b) a 3-minute unassisted station-to-station call to Honolulu, Hawaii after 11:00 p.m.?
c) a 3-minute operator-assisted station-to-station call to Las Vegas, Nevada?
d) a 3-minute person-to-person rate, assisted, call to Chicago, Illinois?

## TASK CARD 6

How much would it cost to make an unassisted station-to-station call to:

a) Albuquerque, New Mexico, on Saturday between 8:00 a.m. and 5:00 p.m.?
b) Sioux Falls, South Dakota, on Tuesday between 5:00 p.m. and 11:00 p.m.?
c) Birmingham, Alabama, at 3:00 p.m. on Friday?

How much does it cost to make a call to Minneapolis, Minnesota, between 5:00 p.m. and 8:00 a.m. on Monday:

a) Station-to-station rate?
b) Person-to-person rate?
c) How much would you save on this call if you dialed station-to-station rather than the person-to-person rate?

## TASK CARD 7

It is 9:00 p.m. on Wednesday night. You suddenly get the urge to call your cousin in Fargo, North Dakota, but you don't want to spend too much money. How much would it cost to place this call:

a) Station-to-station rate, without assistance?
b) Station-to-station rate, with assistance?
c) Person-to-person rate, with assistance?
d) What is the savings between the unassisted station-to-station call and the assisted station call?

Using the Telephone Book (Cont.)

e) What is the savings between the unassisted station-to-station call and the person-to-person rate?

f) If your main interest was in saving money, and if you were fairly certain that your cousin would be home, what type of call would be the smartest to make?

TASK CARD 8

What are the area codes for the following cities?

Scottsbluff, Nebraska

Eau Claire, Wisconsin

Tallahassee, Florida

Weymouth, Massachusetts

Moose Jaw, Saskatchewan

Xenia, Ohio

Tijuana, Mexico

Honolulu, Hawaii

Washington, D. C.

Hannibal, Missouri

TASK CARD 9

Look in the white pages. What are the guide words at the top of page 67?

What are the yellow pages in the phone book used for?

Under what heading would you find the following:

Stained Glass?

Gymnastics?

Microwave Ovens?

Dog Boarding?

List four types of doctors listed in the yellow pages under separate headings:

TASK CARD 10

Using the yellow pages:

If you wanted to take up skin diving, where could you go to learn the sport?

If you owned a Honda Motorcycle where could you go if you wanted a special part for it?

If you wanted to send something Air Freight to Hawaii, where/who would you call?

Grades: 2, 3, 4, 5, 6

## CAN LABELS

Materials: Soup can label, pencil, paper

Procedure: Choose your favorite can of soup. Read the label carefully. Answer the following questions:

1. What kind of soup is it?
2. What is the brand name?
3. What are the directions for making the soup?
4. What recipes, if any, are listed on the label?
5. At which meals might you serve soup? What might you serve with it to make it a complete meal?
6. What are the ingredients?
7. How much does it weigh?
8. Where was the soup manufactured?
9. Write an advertisement for the soup. Illustrate it if you wish.

Note: This activity may be extended to include all types of labels and the printing on containers such as cereal boxes.

Note: This is an excellent reinforcement center activity. See page 269.

Grades: 2, 3, 4, 5, 6

## WHAT DO YOU NEED . . . OR WANT?

Materials: Newspaper, scissors, paste

Procedure: Find a newspaper or magazine ad that tells about something you need or want.

THEN: 1. Cut out your ad. Paste on paper.

2. Tell . . . what it is
why you want it
how much it will cost
how you will get the money

Note: This is an excellent reinforcement center activity. See page 269.

## READING SCAVENGER HUNT

Number of Players: Teams of 2 or 3

Procedure: Each team must end with a group response after each child has done an individual sheet. Each team shall turn in an individual paper, but only the team paper will be used to determine the winning team. All sources of information must be verified by references where appropriate; i.e., book title and page.

EXAMPLE: Find a word between "injure" and "innocent" which means . . . a hotel or hostel; a tavern or restaurant. inn
ref. Houghton, Mifflin American Heritage School Dictionary, page 470

1. What was William Shakespeare's middle name?
ref. ______________________________

2. On page _____ of your reading text, list all polysyllable words.
ref. ______________________________

3. Match a well known nursery rhyme title to fit each of these fictitious headlines.

| | | |
|---|---|---|
| a. | "Agrarian lady accused of vivisection." | ans. Three Blind Mice |
| b. | "Over population has widow perplexed." | Old Lady Lived in a Shoe |
| c. | "Musical group encites elopement!" | Hey Diddle Diddle |
| d. | "School girl has unusual pet." | Mary Had a Little Lamb |

4. How many syllables in ribonucleic?
ref. ______________________________

5. On page _____ of ________________ find the number of words containing the short "a" sound ________________.
ref. ______________________________

6. Unscramble this word: aaonirCfil ________________

7. What relation to you is your father's father's daughter's daughter?
________________

8. What is serendipity? ______________________________
ref. ______________________________

9. In what year was John F. Kennedy born? ______________________________
ref. ______________________________

10. What does CBS stand for? ______________________________
ref. ______________________________

11. Who wrote the book *1984*? ______________________________
ref. ______________________________

Reading Scavenger Hunt (Cont.)

12. What is the copyright date and who is the publisher of your science book?
________ ______________________________________

13. Who composed the famous "Unfinished Symphony"? ______________
ref. ______________________________________

14. On page _____ of your reading text, find all the nouns that are larger than a bread box.
ref. ______________________________________

15. On page _____ of your math book list all words containing the short sound of "e".
ref. ______________________________________

16. From page ______ of your reader draw a comic strip which re-enacts what happened on that page.
ref. ______________________________________

17. The publisher of your math book is ______________________.

18. A list of the chapter titles of your reading book is found on page ________.

19. That page is called. ______________________________

20. Who wrote the Declaration of Independence? ______________
ref. ______________________________________

21. After reading the ______________ in your reader, list all the words from page ________ which are mammals.
ref. ______________________________________

22. Find as many digraphs as you can on page _____ of your health book.
How many? ______________
ref. ______________________________________

23. Find a 3-syllable word on page _____ of the dictionary which means ________
______________________________________

24. Find the topic sentence of the ______ paragraph on page _____ in your reader. ______________________________
ref. ______________________________________

25. What is the inference to be gained from this sentence: "Before leaving the house, John put on his overcoat, wool cap and rubber boots."
What was the weather like? ______________________________

26. On what page in your social studies book would you expect to find information about ______________________? Page __________

27. What is the time of the highest tide in the Atlantic ocean.
ref. ______________________________________

28. Who is the author of Charlotte's web? ______________
ref. ______________________________________

Reading Scavenger Hunt (Cont.)

29. "A stitch in time saves nine."
This statement means:
______ You should learn to sew.
______ Fixing something right away will keep it from getting worse.
______ In time things will get better.

30. Which letter in your dictionary has the most entry pages. ______________
ref. ____________________________________________

31. Which letter in your dictionary has the least number of entry pages. ________
ref. ____________________________________________

32. Look at the area code map of the U.S.A. in your telephone book. In which state would you live if your area code was 913? ____________________

33. In your phone book on which page would you look to find the correct number to report that your telephone was out of order? ____________________

Application of Skills Grades: 4, 5, 6, 7, 8

## MENUS

**Materials**: Three menus, four 5" x 8" task cards

**Procedure**: Make task cards which state the following:

### TASK CARD 1

Which restaurants have different menus, or different sections, for their lunch and dinner offerings?

What are the MAIN sections most of the menus have (for example: sandwiches, beverages, etc.)?

### TASK CARD 2

Give the meanings of the following words from these menus. You may get clues from the menus themselves, or you may use a dictionary.

a) appetizers b) entrees c) guacamole d) du jour (as in "soup du jour")

Find five more words you do not know the meaning of. Remember you may use the dictionary to help you.

### TASK CARD 3

Using the menus, order two different meals for yourself. List each item ordered. Give its price. Then total the prices and add six per cent for sales tax. Include the tip you will leave (15% is normal) and figure the total again.

Write on your paper the meal you are ordering. Breakfast Lunch Dinner

Items Ordered Price

a)
b)
c)
d) Total:
e) 6% tax:
f) tip:
g) Total:

### TASK CARD 4

Make up a menu for your own restaurant, including BREAKFAST, LUNCH, and DINNER sections, plus at least two other main sections.

a) Offer at least four choices under each section.
b) Give a description of each item, and the price.
c) Make up your own fancy names for your special dishes, if you want to. Have *fun* with this.
d) "Print" your menu neatly on a sheet of heavy paper, and then design a cover with the name of your restaurant.

# SKILL REINFORCEMENT GAMES

Educational games, like other activities used for reinforcement, should be preceded by direct instruction. Although there are hundreds of games that may be used for educational activities, most basic game formats should include:

- -Gameboards using movers, dice, and/or spinners, and cards. Open-ended game boards are the most versatile for teachers to use.
- -Card games, such as Concentration, Rummy, Fish.
- -Matrix board games, including chess, checkers, bingo, tic-tac-toe.
- -Self-check games, such as pizza wheels, string boards, or other activities where students can compete either by themselves or with another student.
- -Pieces and parts games, which include puzzles, dominoes, and other games with movable parts.

By learning these formats and the advantages and disadvantages of each, the classroom teacher may devise manipulative activities that will not only reinforce concepts or skills taught but also provide reinforcement through manipulation at various cognitive levels of thinking.

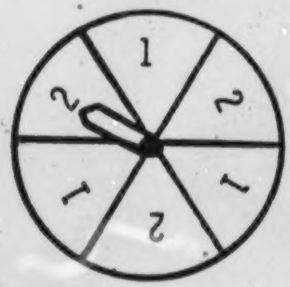
With a little creativity, each of these activity formats lends itself to almost every skill covered in the diagnostic/prescriptive program. One of the advantages of using the same game form in a variety of ways, for reinforcing many skills is the efficient use of teacher and student time. Once the students have been taught the rules of the game, they are quite self-sufficient in their practice of basic skills.

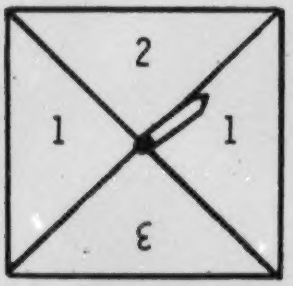
The interaction of children and the reinforcement of skills is best accomplished as children work together. Even individual type games such as sorting or string boards should be done in pairs.

REMEMBER, a student should be able to win at a game. Losing should be due to a lack of strategy rather than to the difficulty of content. Finally, be sure to identify any prerequisite skills or knowledge necessary for students before the game is prescribed.

Each game should include:

- A purpose related to curriculum content.
- Instructions and rules written in the vocabulary of the learner so that each step and rule for playing the game is easily understood by the students. They should describe the number of students who can play the game and should specify the procedures for resolving disagreements (e.g., using answer keys). For primary students the teacher should explain the directions orally.
- Parts and pieces should be kept together. If a response sheet or marking pencil is required, these should be included.
- A container such as an envelope, folder, or box to hold all game parts. An example of a very useful storage container is a plastic storage box. The markers and cards may be stored inside the box and the lid made into a spinner.





- Answer keys or some other self-correcting device should be included. In this way the teacher will not have to be interrupted as often.

Games should be made of sturdy materials and should be laminated or covered with clear contact paper for durability.

Although many skills are listed in the book for each activity, the lists are not all inclusive. Each game is appropriate for a variety of skills.

Grades: All

## CONCENTRATION

Number of Players: 2 to 4

Materials: Print pairs of words and pictures on small cards (2½" x 2½"). One matrix concentration game board. For primary children, put 10 to 20 boxes on the matrix, for upper grade children, put 30 to 40 boxes on the matrix.

Procedure: Place word cards face down. First player turns up two cards. If they match, the player keeps them. If they don't match, the player returns them face down again in the same place. The next player does the same and so on. Continue until all cards have been matched. The winner is the one with the most matched pairs.

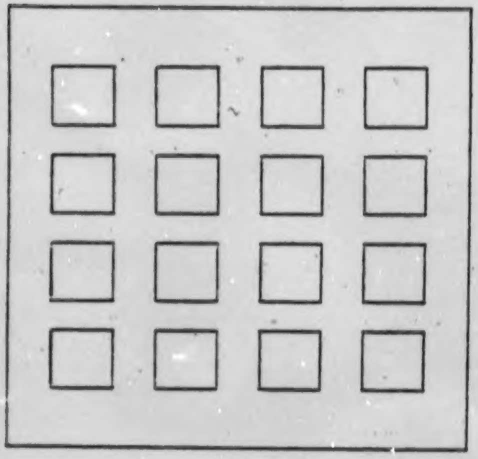
Variation: 1. Turn all cards right side up on a concentration board. Study for two or three minutes, noting position of pairs. Then turn them over and proceed as above.

2. Cards may be scattered at random, face down on a desk or on the floor instead of using a matrix board.

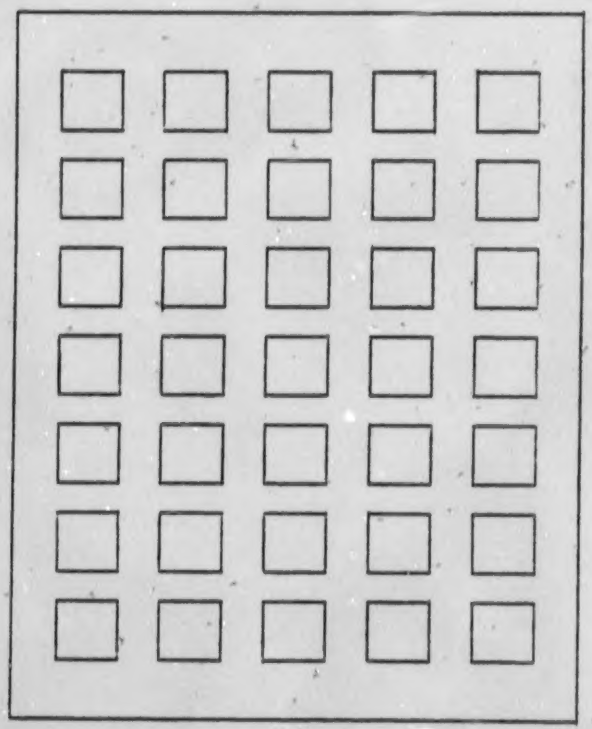
Note: For young children, mark an "X" on the back of one card in each pair. Then children know they should pick up one card with an "X" and one card without an "X".

Note: Be sure students say what they are matching.

Primary



Upper Grade



Concentration (Cont.)

Concentration is appropriate for reinforcing the following skills:

| | | | | |
|---|---|---|---|---|
| Tests | 1 | Matching | 13 | Alphabetizing |
| | 2,3 | Upper and lower case letters | 14 | Compound words |
| | 4 | Initial consonants | 19,39 | Contractions |
| | 5 | Rhyming | 22,23 | Prefixes and |
| | 8 | Final consonants | 35,45 | Base words |
| | 9 | 2-Letter initial clusters | 23,24 | Suffixes and |
| | 11 | Long and short vowels | 35,45 | Base words |
| | 12 | Consonant digraphs | 25,50 | Homophones |
| | 28 | 2-Letter final clusters | | Supporting detail |
| | 29 | 3-Letter initial clusters | | Relationship |
| | 31 | Other vowels | | |

Grades: All

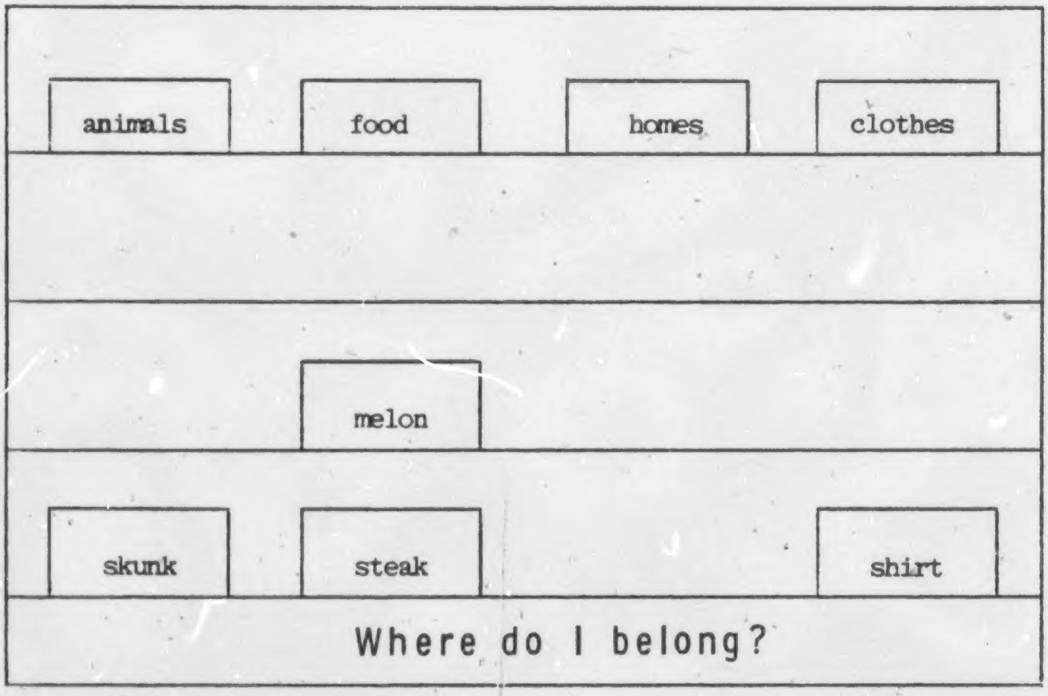
## POCKET CHART SORTING BOARD

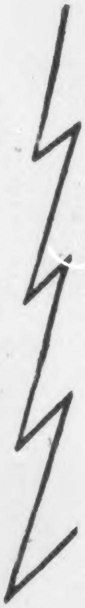
Number of Players: Individual or Partners

Materials: Make a pocket chart as shown from a 20" x 30" piece of tagboard, and sixteen 3" x 5" cards. Four of the cards bear the names of general categories; the other cards bear words or pictures (three pictures to fit into each category). Put all the cards for each chart into an envelope.

Note: Pocket chart may be made from 8" x 11" paper with 1½" x ½" cards, or pocket chart may be made from 12" x 18" tag with 2" x 3" cards.

Procedure: The child takes an envelope and a pocket chart, places the category cards across the top of the chart, and then sorts the other cards so that each picture or word is placed under the appropriate category.





(Side view for folding of th pocket chart. Pockets shoul not be more than 1" in depth.)

Note: This game is appropriate for reinforcing the following skills:

| Tests | |
|---|---|
| 1 | Matching letters |
| 2,3 | Upper and lower case letters |
| 4 | Initial consonants |
| 5 | Rhyming |
| 8 | Final consonants |
| 9 | 2-Letter initial clusters |
| 11 | Long and short vowels |
| 12 | Consonant digraphs |
| 28 | 2-Letter final clusters |
| 29 | 3-Letter initial clusters |
| 31 | Other vowels |
| 13 | Alphabetizing |
| 14 | Compound words |
| 22 | Prefixes |
| 23 | Base words |
| 24 | Suffixes |
| 53 | Guide words |
| 55 | Reference skills |
| | Sequence |
| | Relationship |
| | Supporting details |

Grades: All

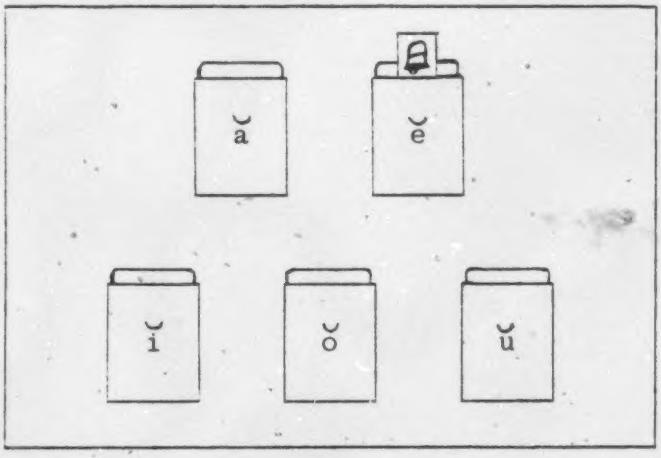
## LIBRARY BOARD SORTING BOARD

Number of Players: Individual or Partners

Materials: Five or six 3½" x 4½" library pockets.

Procedure: **Make** a chart as shown from a 14" x 22" piece of colored tagboard. Put words or pictures on the top portion of twenty-five or thirty 2½" x 6" cards (or as many as needed for a particular skill). Put all the cards for each chart into an envelope. They may be made self-checking by coding the back.

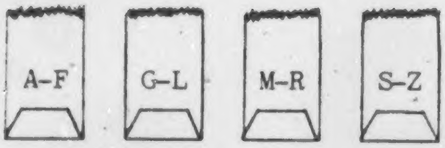
The child takes a pocket sorting board and the envelope of cards that goes with it. The child then places each card in the appropriate pocket.



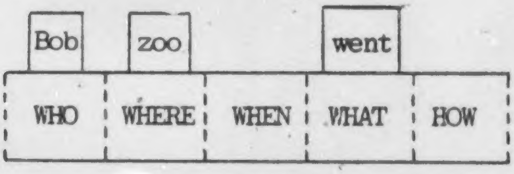
Variation: Sorting Bags or Boxes

Material: Lunch bags or shoe boxes with cardboard dividers; 3" x 5" cards.

Procedure: Label the bags or boxes and put words or pictures on the cards.



ALPHABETIZING



SUPPORTING DETAILS

Grades: All

## BINGO

Number of Players: 2 to 6 (or as many as there are game boards)

Materials: One 9" x 12" game board for each player. The board may have nine squares or as many as twenty-five squares. Pictures or word lists for skill desired. Markers such as tiles, beans, bottle caps, which will be placed on the pictures or words.

Procedure: Produce skill bingo playing boards for each game making sure to vary the order and kinds of sounds and/or pictures used. For example, in the 9-space board as many as 18-24 different pictures may be used in various arrangements and combinations on the playing cards. No two cards should be the same. Each child receives a card and several markers. The teacher calls the sounds or words and the child puts a marker on the card if he/she has a correct response. The first child to fill the card wins. Compare the responses to a record, kept by the teacher, of items called.

### SAMPLE OF FINAL CONSONANT BINGO

Procedure: Make a grid on 8½" x 11" paper with three vertical and three horizontal rows for each child.

| | | |
|---|---|---|
| l | m | n |
| s | p | r |
| t | x | p |

Put one consonant in each of the nine squares. On each "board", use a different combination of consonants in different squares. Give each child one board and some paper markers (or a crayon if the game will only be used once). Say *box*. Children who have the last letter of that word (x) on their boards should cover it. Have the children listen for final consonants and cover appropriate squares until someone has covered a row of three squares (or the entire board if you prefer). Be sure to make an answer key for the caller. Check the children's choices.

Sample of Final Consonant Bingo (Cont.)

Following is an example of a large matrix board for a game of antonyms. The caller would say the matching word, i.e. little and the child would put a marker on "big".

| | | | | |
|---|---|---|---|---|
| big | hot | go | day | dry |
| fat | on | old | fast | no |
| buy | cry | free | sad | up |
| bad | low | top | few | far |
| here | new | last | in | lost |

Note: This game is appropriate for reinforcing the following skills:

| | | |
|---|---|---|
| Tests | 2,3 | Upper and lower case letters |
| | 4 | Initial consonants |
| | 5 | Rhyming |
| | 8 | Final consonants |
| | 9 | 2-Letter initial clusters |
| | 11 | Long and short vowels |
| | 12 | Consonant digraphs |
| | 28 | 2-Letter final clusters |
| | 29 | 3-Letter initial clusters |
| | 31 | Other vowels |
| | 14 | Compound words |
| | 17,33 | Synonyms |
| | 18,34 | Antonyms |
| | 19,39 | Contractions |
| | 53 | Guide words |

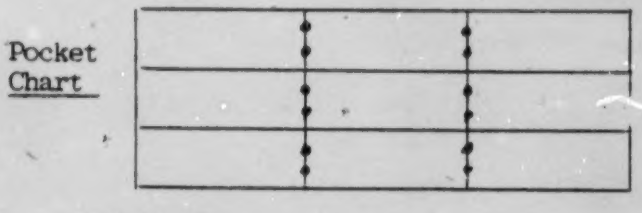
Grades: All

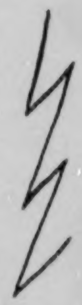
# TIC-TAC-TOE

Number of Players: 2

Materials: A pocket chart with nine spaces. Nine 5" x 5" cards with pictures or words, five cards marked with an "X" and five cards marked with an "O". Mark back of cards with the correct answer for self-correcting.

Procedure: Picture or word cards are placed in the pocket chart. One child has the "X" cards and one child has the "O" cards. The first child reads any picture or word and gives the appropriate answer, for example, if the card has a picture of the sun the child would respond with "short u". If the player is correct, that player places an "X" or "O" on the picture or word. The first child to make a tic-tac-toe wins the game.

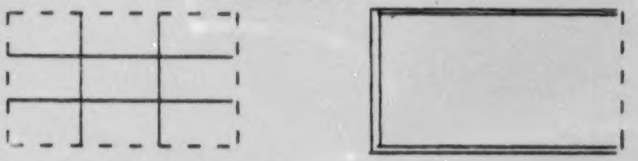



(Side view for folding of the pocket chart. Pockets should not be more than 1" in depth.)

Note: Variations

Cut a square piece of chipboard approximately 9" x 9". Cut a piece of heavy clear acetate to match. Put cardboard and acetate together with masking tape or library tape on three sides. Make a set of several different tic-tac-toe sheets for each skill. They can be on paper cut slightly smaller than the boards so they will slip easily in and out of the acetate holders.

Variation



The first child reads any picture or word and gives the appropriate answer. If the player is correct, that player places an "X" or "O" on the acetate over the picture or word. The first child to make a tic-tac-toe wins the game.

This game is appropriate for reinforcing the following skills:

| | |
|---|---|
| Tests 2,3 | Upper and lower case letters |
| 4 | Initial consonants |
| 5 | Rhyming |
| 8 | Final consonants |
| 9 | 2-Letter initial clusters |
| 11 | Long and short vowels |
| 12 | Consonant digraphs |
| 28 | 2-Letter final clusters |
| 29 | 3-Letter initial clusters |
| 31 | Other vowels |
| 14 | Compound words |
| 17,33 | Synonyms |
| 18,34 | Antonyms |
| 19,39 | Contractions |
| 25,50 | Homophones |
| | Sequence |
| | Main idea |
| | Relationship |

Grades: All

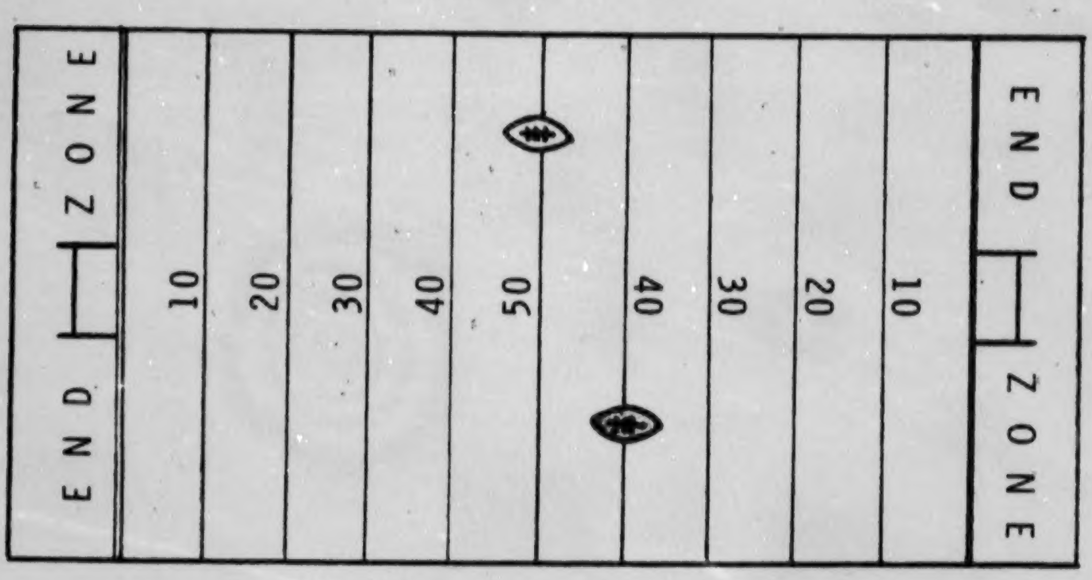
## FOOTBALL

**Number of Players**: 2 - 4

**Materials**: A piece of tagboard with the yard lines of a football field drawn on it. Two paper footballs, each of a different color. Approximately twenty to thirty 3" x 5" cards with the skill to be reinforced written on them.

**Procedure**: Place the pack of cards face down near the fifty yard line. Place each football on the fifty yard line. The first person on each side draws a card. If the child can correctly do the skill required, he/she may advance the ball to the forty yard line. Then, the player on the other side proceeds in the same way. If the child cannot answer correctly, there is a ten yard penalty. The first child to reach the goal line receives six points. If the child can answer the next card, an extra point is received. When either player is on the thirty yard line, he/she may decide to try for a field goal. The player must get three cards in succession correct. If the student does this, he/she receives three points. Game ends at a given time.

Note: You may wish to move in five yard increments rather than ten yards.



This game is appropriate for reinforcing the following skill(s):

| | | | | |
|---|---|---|---|---|
| Tests | 1 | Matching | 13, 41, 49 | Alphabetizing |
| | 2,3 | Upper and lower case letters | 14 | Compound words |
| | 4 | Initial consonants | 15, 40 | Context clues (cloze) |
| | 5 | Rhyming | 17, 33 | Synonyms |
| | 8 | Final consonants | 18, 34 | Antonyms |
| | 9 | 2-letter initial | 19, 39 | Contractions |
| | 11 | Long and short vowels | 22, 23, 24 | Base words and affixes |
| | 12 | Consonant digraphs | 35, 36, 37 | |
| | 31 | Other vowels | 45, 46, 47 | |
| | | | 48 | |

414

Grades: All

## RUMMY

Number of Players: 3 or 4

Materials: Fifty-two cards 1½" x 5" for primary or 3" x 5" for older students, a list of words or phrases for the skill to be reinforced.

Procedure: Deal six cards to each player. The next card is then placed, face up, beside the rest of the deck, which is placed face down.

The player on the dealer's left begins the play by picking up the top card from either the discard pile or the draw pile. Then that player looks at the cards to see if any of them form pairs. (As an example, a pair is a combination of a base-word card and a suffix card that forms a meaningful word.) The player then places any pairs on the table. A player may challenge another player if the pair placed on the table does not form a word. A player then looks for the word in a dictionary. If there is no such word, the player who put down the pair must pick it up, discard a card, and miss the next turn. If the word is correct, the challenger loses the next turn.

When a player has placed all the pairs on the table during a turn, that player must discard one card. A player may place pairs on the table only when it is his or her turn. The game continues until one player "goes out." (To go out, the player must have no cards left in his or her hand.) That person is the winner of the game.

If a player does not go out by the time the draw pile is used up, the top card from the discard pile is used to start a new discard pile while the remaining cards are shuffled and placed face down to make a new draw pile.

Note: This game is appropriate for reinforcing the following skills:

| Tests | |
|---|---|
| 2,3 | Upper and lower case letters |
| 4 | Initial consonants |
| 5 | Rhyming |
| 8 | Final consonants |
| 9 | 2-Letter initial clusters |
| 11 | Long and short vowels |
| 12 | Consonant digraphs |
| 28 | 2-Letter final clusters |
| 29 | 3-Letter initial clusters |
| 31 | Other vowels |
| 14 | Compound words |
| 15,40 | Context clues (cloze) |
| 17,33 | Synonyms |
| 18,34 | Antonyms |
| 19,39 | Contractions |
| 22,36,46 | Prefixes |
| 23,45,47 | Base words |
| 24,37,48 | Suffixes |
| 25,50 | Homophones |

Grades: All

## FISH

Players: 3 or more

Materials: Twenty-six pairs of word cards (cut like playing cards), word or phrase lists to cover the skill to be reinforced.

Procedure: Deal five cards to each player. The first player pairs as many cards as possible from the cards dealt. When the player finishes, he or she may ask for a card from another player that will make a pair. (*For example: "Please give me a card that rhymes with* ______.") If the player who was asked has a match, that player must give up all the matching cards from her or his hand. If the second player does not have the card, that player says "*Go fish.*" Then, the player who asked must draw the top card from the deck which is lying face down on the table. If this card completes a set, the player may lay down the set and draw again until he or she is unable to obtain a complete set. The turn then goes to the next player.

As a player succeeds in making a set, the player shows them to the others and lays them face down. When there are no more cards left in the deck, the round is over and the player with the most sets wins. Ten points are scored for each winning round.

If a player has a card that is called for but does not give it up, that player is penalized one point for each player in the game.

Note: This game is appropriate for reinforcing the following skills:

| | | |
|---|---|---|
| Tests | 2,3 | Upper and lower case letters |
| | 4 | Initial consonants |
| | 5 | Rhyming |
| | 8 | Final consonants |
| | 9 | 2-Letter initial clusters |
| | 11 | Long and short vowels |
| | 12 | Consonant digraphs |
| | 28 | 2-Letter final clusters |
| | 29 | 3-Letter initial clusters |
| | 31 | Other vowels |
| | 15,40 | Context clues (cloze) |
| | 17,33 | Synonyms |
| | 18,34 | Antonyms |
| | 19,39 | Contractions |
| | 25,50 | Homophones |

Grades: All

## LACE BOARD

Number of Players: Individual or partners

Materials: One piece of colored tagboard, approximately 12" x 18" inches mounted on a piece of chipboard. Laminate or cover with contact paper for durability. Several plastic or cloth laces.

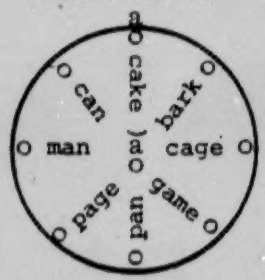
Procedure: Write words or phrases or mount pictures on the tagboard. Punch a hole next to each word, picture or phrase. Put a lace into the hole and knot it at the back of the board.

Punch a hole next to each corresponding word or picture. The student places the lace into the hole next to the answer that corresponds with the question which is the origin of the lace.

Antonyms

| | |
|---|---|
| o hot | o tall |
| o fast | o none |
| o all | o slow |
| o short | o cold |
| o in | o out |

Short Vowel



Note: This game is appropriate for reinforcing the following skills:

| Tests | | | |
|---|---|---|---|
| 1 | Matching | 29 | 3-Letter initial clusters |
| 2,3 | Upper and lower case letters | 31 | Other vowels |
| 4 | Initial consonants | 13 | Alphabetizing |
| 5 | Rhyming | 14 | Compound words |
| 8 | Final consonants | 17,33 | Synonyms |
| 9 | 2-Letter initial clusters | 18,34 | Antonyms |
| 11 | Long and short vowels | 19,39 | Contractions |
| 12 | Consonant digraphs | 25,50 | Homophones |
| 28 | 2-Letter final clusters | 53 | Guide words |

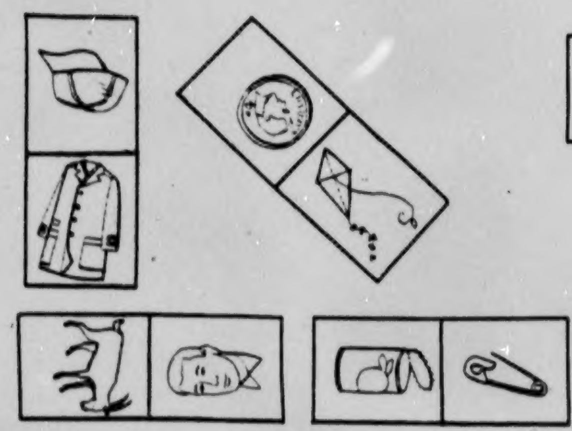
Grades: All

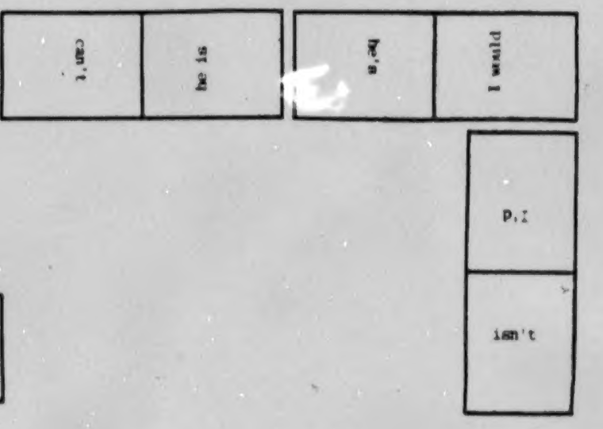
## DOMINOES

Number of Players: 2

Materials: Prepare a set of cards made like dominoes, but bearing pictures or words instead of dots. In each word, a letter or letters spelling a sound are underlined. The cards be laminated for durability. Provide a die.

Procedure: All dominoes are turned face down. Each child draws four dominoes. Each player rolls the die; the one rolling the largest number starts. The first player puts out one domino (face up). The other player must place one domino on the board to match sounds or pictures (as numbers are matched in ordinary dominoes). The child pronounces the two words and the sound as the domino is placed. If a player cannot match a sound from the dominoes at hand, dominoes must be drawn from the pile until a match is found. The first player to use all the dominoes from his or her hand wins the game. With a larger number of dominoes, more players can join the game.





Note: This game is appropriate for reinforcing the following skills:

| | | | | |
|---|---|---|---|---|
| Tests | 4 | Initial consonants | 14 | Compound words |
| | 5 | Rhyming | 17,33 | Synonyms |
| | 8 | Final consonants | 18,34 | Antonyms |
| | 9 | 2-Letter initial clusters | 19,39 | Contractions |
| | 11 | Long and short vowels | 22,23 | |
| | 12 | Consonant digraphs | 24,35 | |
| | 28 | 2-Letter final clusters | 36,37 | Base words and affixes |
| | 29 | 3-Letter initial clusters | 45,46 | |
| | 31 | Other vowels | 47,48 | |
| | 13,41,49 | Alphabetizing | 25,50 | Homophones |
| | | | | Supporting detail |
| | | | | Main idea |

Grades: All

## TREASURE HUNT

Number of Players: Individuals, small group or whole class

Materials: Newspapers, basal readers or almost any reading material. Newspapers are preferred, however.

Procedure: Post a RULE you wish the students to practice. Have the students find words to fit the rule. For example, silent "e", vowel digraphs, long and short vowel sounds, syllables. Have the students circle the words in the newspaper then write them on an answer sheet.

Variation: Put letter(s) of the alphabet on a piece of paper. Have the students find words or pictures starting with that letter.

Note: This game is appropriate for reinforcing the following skills:

| | |
|---|---|
| Tests 2, 3 | Upper and lower case letters |
| 4 | Initial consonants |
| 5 | Rhyming |
| 8 | Final consonants |
| 9 | 2-Letter initial clusters |
| 11 | Long and short vowels |
| 12 | Consonant digraphs |
| 28 | 2-Letter final clusters |
| 29 | 3-Letter initial clusters |
| 31 | Other vowels |
| 13,41,49 | Alphabetizing |
| 14 | Compound words |
| 19,39 | Contractions |
| 20,38 | Syllables |
| 22 | Prefixes |
| 23 | Base words |
| 24 | Suffixes |
| | Main idea |

Grades: All

## BEAN BAG GAME

Number of Players: 2 students or 2 teams

Materials: A large sheet of heavy plastic or butcher paper, approximately four feet by six feet, one bean bag, letter or word cards.

Procedure: Section off the large rectangle into small squares. The size of the small squares will depend on age and skill of students. The player must stand behind a line at least three feet away from the edge.

One at a time, the players throw the bean bag on a letter or word. The student must then supply the appropriate word. One point is scored for each correct answer. At the end of a specified time, the player or team with the most points wins.

Note: If the bag lands on a line, the player loses a turn.

Note: This game is appropriate for the following skills:

| | | |
|---|---|---|
| Tests | 1 | Matching |
| | 2,3 | Upper and lower case letters |
| | 4 | Initial consonants |
| | 5 | Rhyming |
| | 8 | Final consonants |
| | 9 | 2-Letter initial clusters |
| | 11 | Long and short vowels |
| | 12 | Consonant digraphs |
| | 28 | 2-Letter final clusters |
| | 29 | 3-Letter initial clusters |
| | 31 | Other vowels |
| | 17,33 | Synonyms |
| | 18,34 | Antonyms |
| | 19 | Contractions |
| | 20,38 | Syllables |
| | 22 | Prefixes |
| | 23 | Base words |
| | 24 | Suffixes |
| | 25 | Homophones |
| | | Relationships |

Grades: All

## CLIP AN ANSWER

Number of Players: Individual or partners

Materials: Two or three 10" - 14" diameter pieces of tagboard (pizza wheel) divided in 10-14 sections; laminate or cover with contact paper. Ten to fourteen clothespins.

Procedure: Student(s) match(es) words on clothespins to words, pictures, or definitions on the board.

Glue the two or three pieces of tagboard together to make the game sturdier. On the top surface, illustrate, print the words, or mount any picture.

Put the correct answers on the clothespins. Clip the clothespins to the corresponding question. Turn the board over to the reverse side and develop a self-correcting system by color coding, letter matching, or number matching. Be sure to mark both the clothespin and the back of the board.

Variations: 1. Boards may be squares, rectangles, or triangles as well as circles.

2. Large paper clips with small tagboard strip attached may be used instead of clothespins.

Note: This game is appropriate for reinforcing the following skills:

| | | | | |
|---|---|---|---|---|
| Tests | 1 | Matching letters | 17,33 | Synonyms |
| | 2,3 | Upper and lower case letters | 18,34 | Antonyms |
| | 4 | Initial consonants | 19,39 | Contractions |
| | 5 | Rhyming | 22 | Prefixes |
| | 8 | Final consonants | 23 | Base words |
| | 9 | 2-Letter initial clusters | 24 | Suffixes |
| | 11 | Long and short vowels | 25,50 | Homophones |
| | 12 | Consonant digraphs | 53 | Guide words |
| | 28 | 2-Letter final clusters | 55 | Reference skills |
| | 29 | 3-Letter initial clusters | | Sequence |
| | 31 | Other vowels | | Relationship |
| | 13 | Alphabetizing | | Supporting detail |
| | 14 | Compound words | | |

Grades: All

## CHECKERS

Number of Players: 2

Materials: One checkerboard. See pages 91, 247. Twelve markers of two different colors such as bottle caps, small tiles, or pieces of paper.

Procedure: SET UP THE BOARD: Place the board between the two players so the first square on each player's right-hand corner is a light one. One player takes twelve markers of one color and the other child takes twelve of a different color. Each sets up his markers on the dark squares of the board.

THE MOVES: One child plays first by moving one of the front-line markers one square forward, along either diagonal row of dark squares. In order to move the child must give the correct answer to the skill used in the box.

The other child moves in the same manner, and after this, the players move one marker alternately, always along the diagonal row of dark squares, towards the opponent's backline. Moves are made to unoccupied dark squares.

THE JUMPS: If an opponent's marker is in the next diagonal square forward, with an empty dark square directly behind and in the same diagonal line in the row ahead, you must jump that marker and land in the empty square, thereby capturing your opponent's marker. Captured markers are removed from the Board. If there are several successive jumps in a straight or zigzag forward direction, you must make all of them.

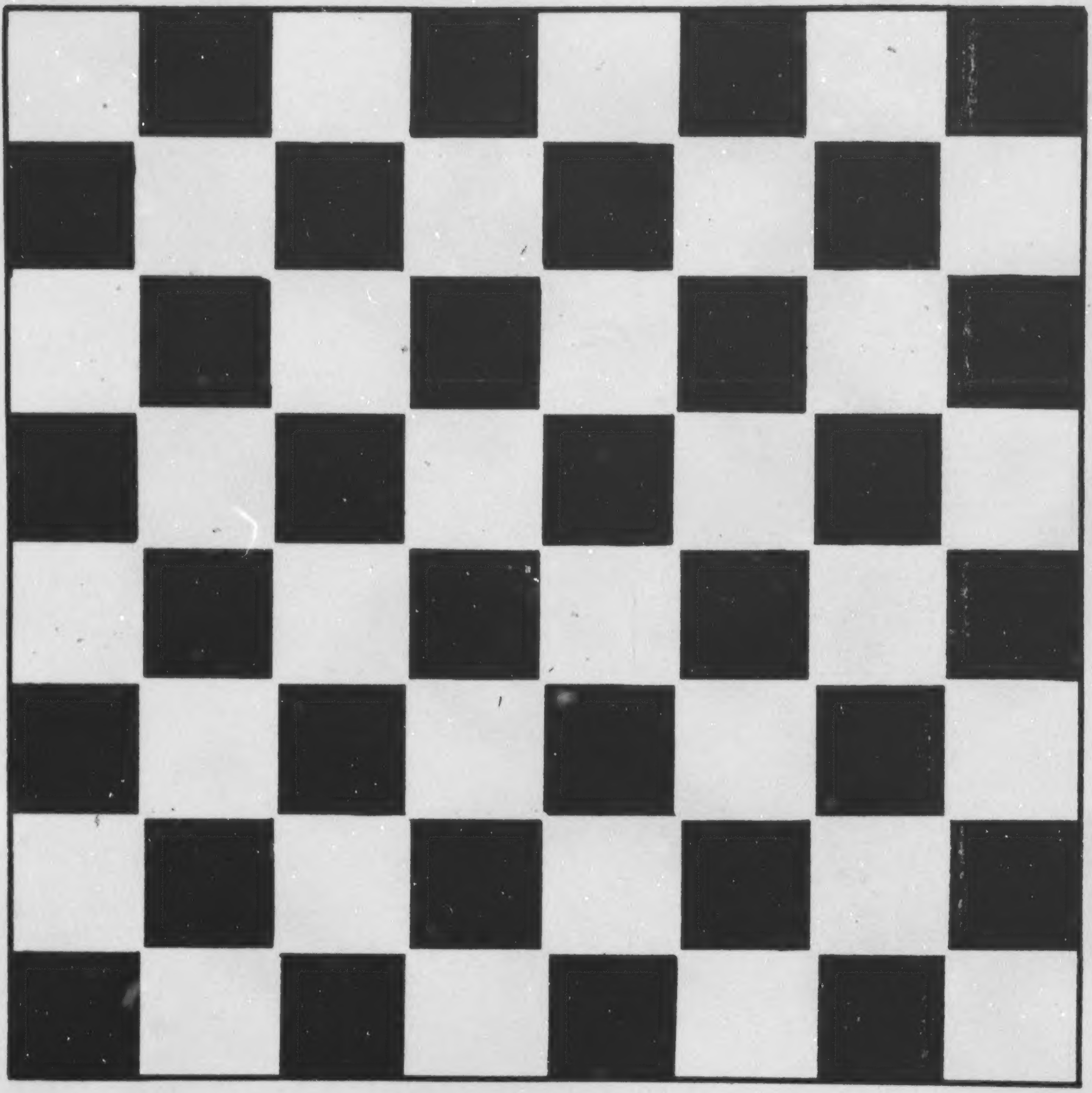
A player must capture the opponent's men whenever possible. If not, the player may be "HUFFED," that is the opponent may, as a penalty, remove from the board the man who should have made the capture.

KINGS: If one of the men reaches the opponent's back-line, it becomes a KING and the opponent places a captured marker on top of it to indicate this. A KING can move in any direction along empty adjoining dark squares and can jump in the same manner as regular marker, except that KING jumps can be made in any diagonal direction, either forward or backward.

THE WINNER: First person to remove all of the opponent's markers from the board or blocks the opponent so he can't move is the Winner.

Note: This game is appropriate for reinforcing the following skills:

| | | | | |
|---|---|---|---|---|
| Tests | 2,3 | Upper and lower case letters | 17,33 | Synonyms |
| | 4 | Initial consonants | 18,34 | Antonyms |
| | 5 | Rhyming | 19,39 | Contractions |
| | 8 | Final consonants | 20,38 | Syllables |
| | 9 | 2-Letter initial clusters | 22,23,24<br>35,36,37<br>45,46,47,48 | Prefixes, base word, suffixes |
| | 11 | Long and short vpwels | | |
| | 12 | Consonant digraphs | | |
| | 28 | 2-Letter final clusters | 25,50 | Homophones |
| | 29 | 3-Letter initial clusters | 51 | Heteronyms |
| | 31 | Other vowels | 52 | Homographs |
| | 14 | Compound words | | Relationship |

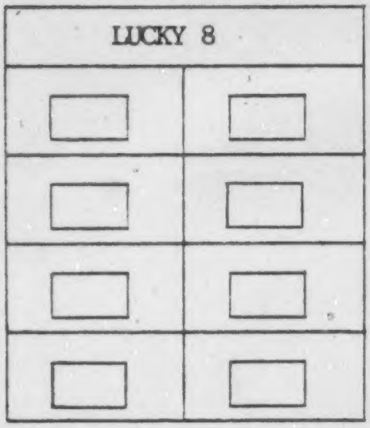


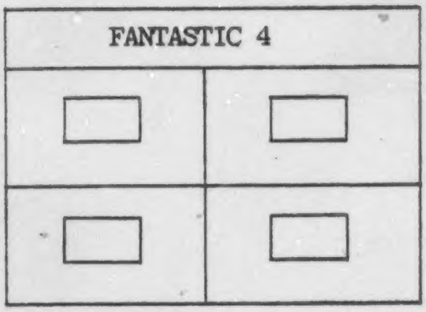
CVCSD/A215(23)11-75

## LUCKY 8 or FANTASTIC 4

**Number of Players**: 3 to 4

**Materials**: Large board for each player, see pages 249-250. A deck of cards consisting of thirty pairs of 2½" x 3" cards for Lucky 8 and twenty pairs of 2½" x 3" cards for Fantastic 4. The skills, such as Antonyms and Prefixes, would be placed on the cards.



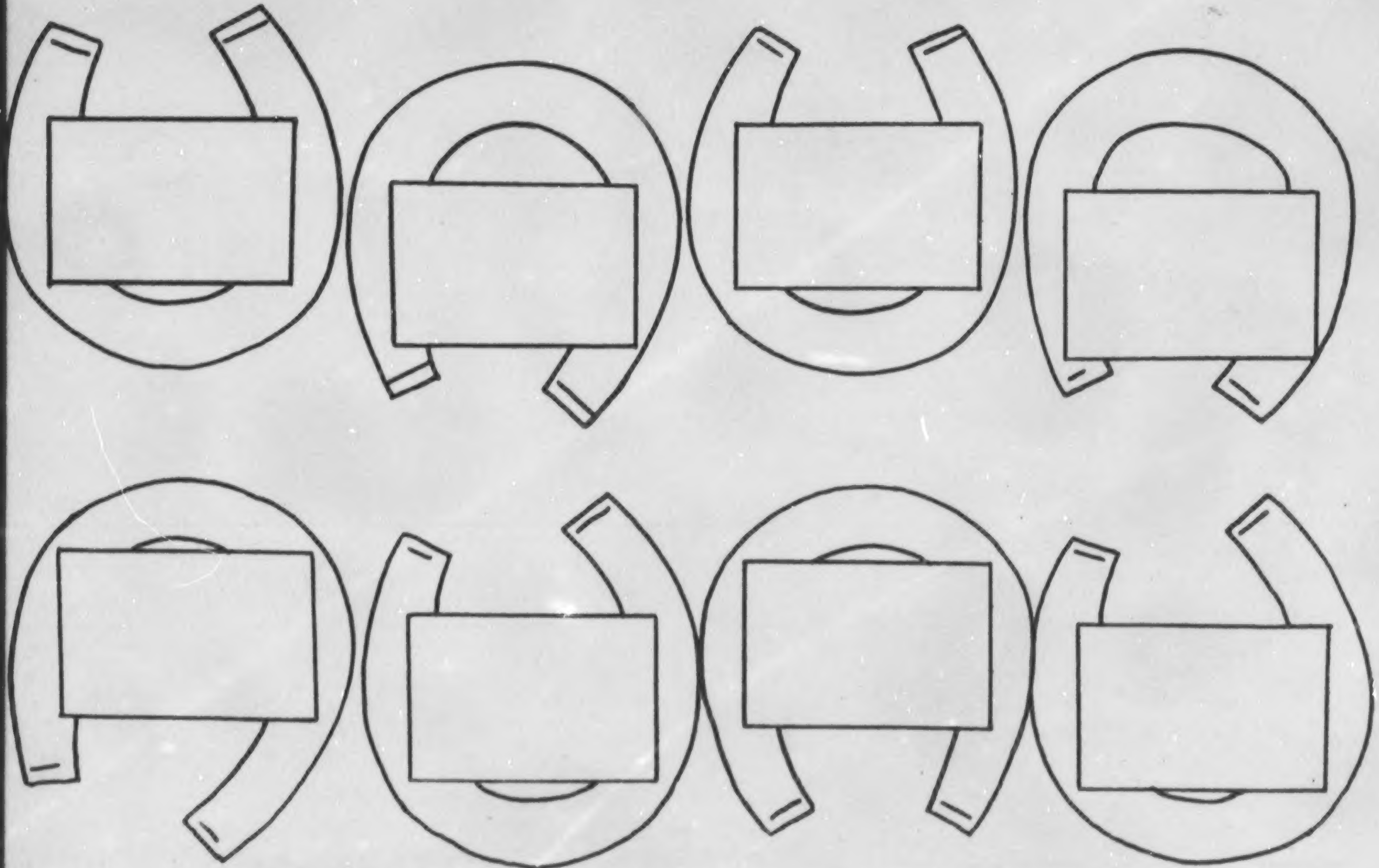


**Procedure**: Small cards are placed face down in the center. Players take turns drawing a card, saying the words and placing the card in a box on a larger card. When a player draws a card that matches another player's card, the second player asks for the matching card. If a player draws a matching card which he or she has, the player gets a free turn. If the card becomes full, but not all are doubles, the card is placed with the word up and anyone who has the matching cards may take it at his or her turn and also may have a turn drawing. The winner is the first one to have all doubles, saying "Lucky 8" or "Fantastic 4".

**Note**: This game is appropriate for reinforcing the following skills:

| | | |
|---|---|---|
| Tests | 1 | Matching |
| | 2,3 | Upper and lower case letters |
| | 4 | Initial consonants |
| | 5 | Rhyming |
| | 8 | Final consonants |
| | 9 | 2-Letter initial clusters |
| | 11 | Long and short vowels |
| | 12 | Consonant digraphs |
| | 28 | 2-Letter final clusters |
| | 29 | 3-Letter initial clusters |
| | 31 | Other vowels |
| | 17,33 | Synonyms |
| | 18,34 | Antonyms |
| | 19,39 | Contractions |
| | 20,38 | Syllables |
| | 23,35 | Base words |
| | 25,50 | Homophones |

# LUCKY 8



F. SPAULDING

# FANTASTIC 4

F. SPAULDING

CVCSD/A215 (222) 6-77

Grades: All

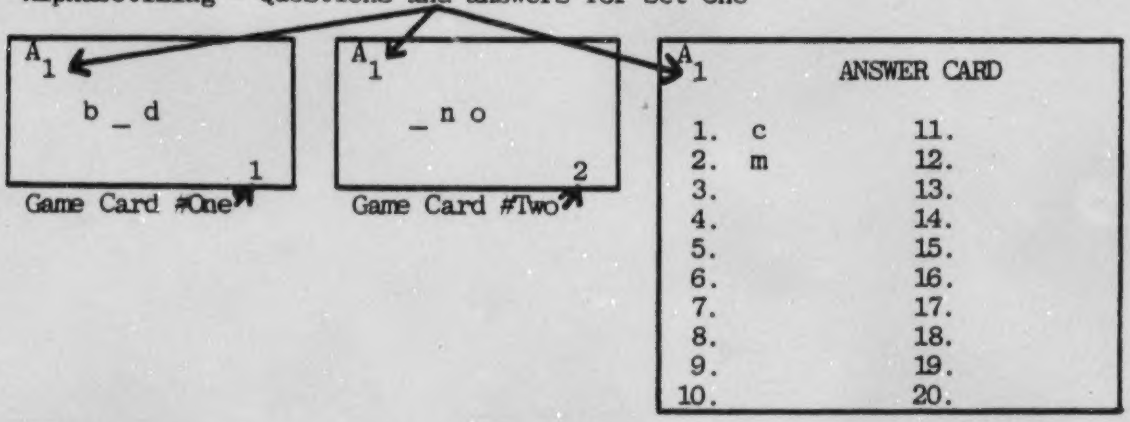
## OPEN ENDED GAME

Number of Players: 2 to 4

Materials: Open-ended gameboard (see pages 253-268), markers, die or spinner, set of twenty 3" x 5" cards with questions written on them, one 5" x 8" answer card. Laminate or cover with contact paper for durability.

Cards: Each set of cards should contain approximately twenty question cards and one answer card for checking. The question cards and answer card can be the same color to keep various sets separated. The cards should have identifying marks; for example:

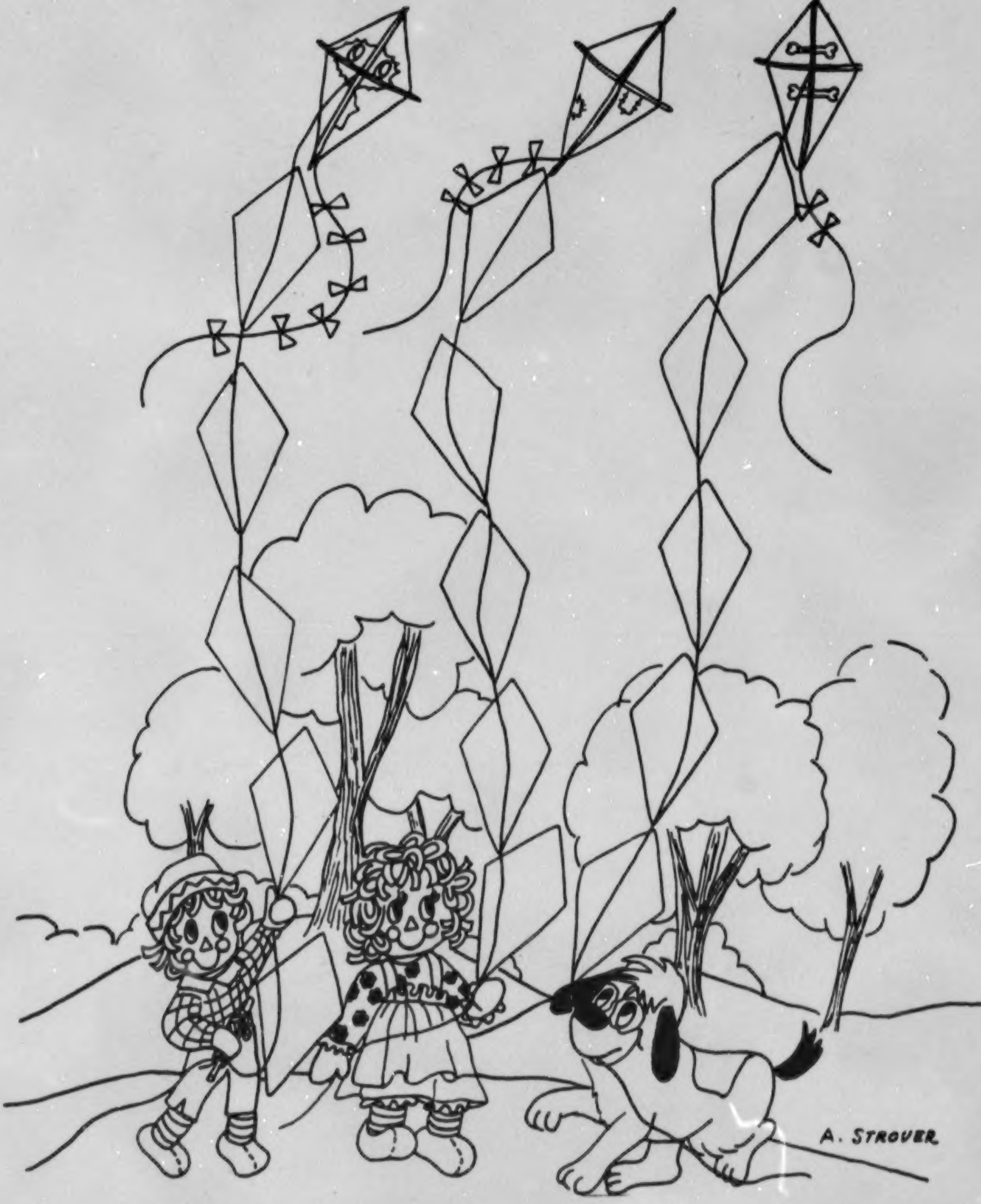
Alphabetizing - Questions and answers for Set One



Procedure: Students put their markers on the first space, shuffle the cards, turn them face down and then roll the die or spin the spinner to see who goes first. The first player turns over the top card. If he or she says the correct answer (as checked by the pupil with the answer card), that player rolls the die or spins the spinner to see how many spaces to move. If the answer is wrong, the player does not move. The next player takes a turn, following the same procedure. The game continues until one player gets to the "Finish" space.

Note: An additional student may act as judge by checking the answer card, or the answer card may be moved from player to player as students take turns. The player who has just finished a turn becomes the judge.

Note: The open-ended gameboards on pages 253 - 254 would be appropriate for kindergarten and grade one. Those on pages 255 - 260 are for grades one through three and pages 261 - 268 are meant to appeal to fourth, fifth, sixth, seventh and eighth grade students.



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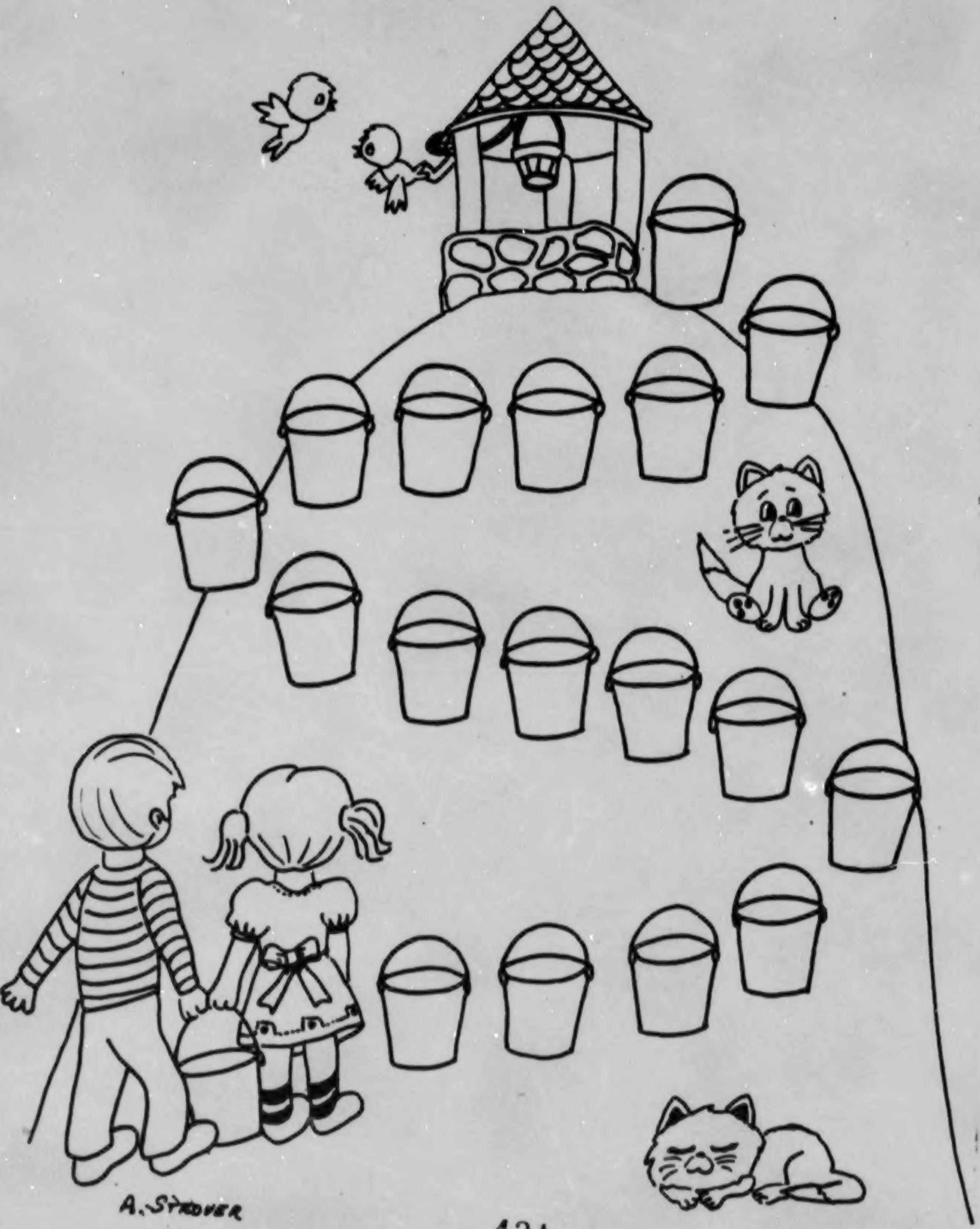
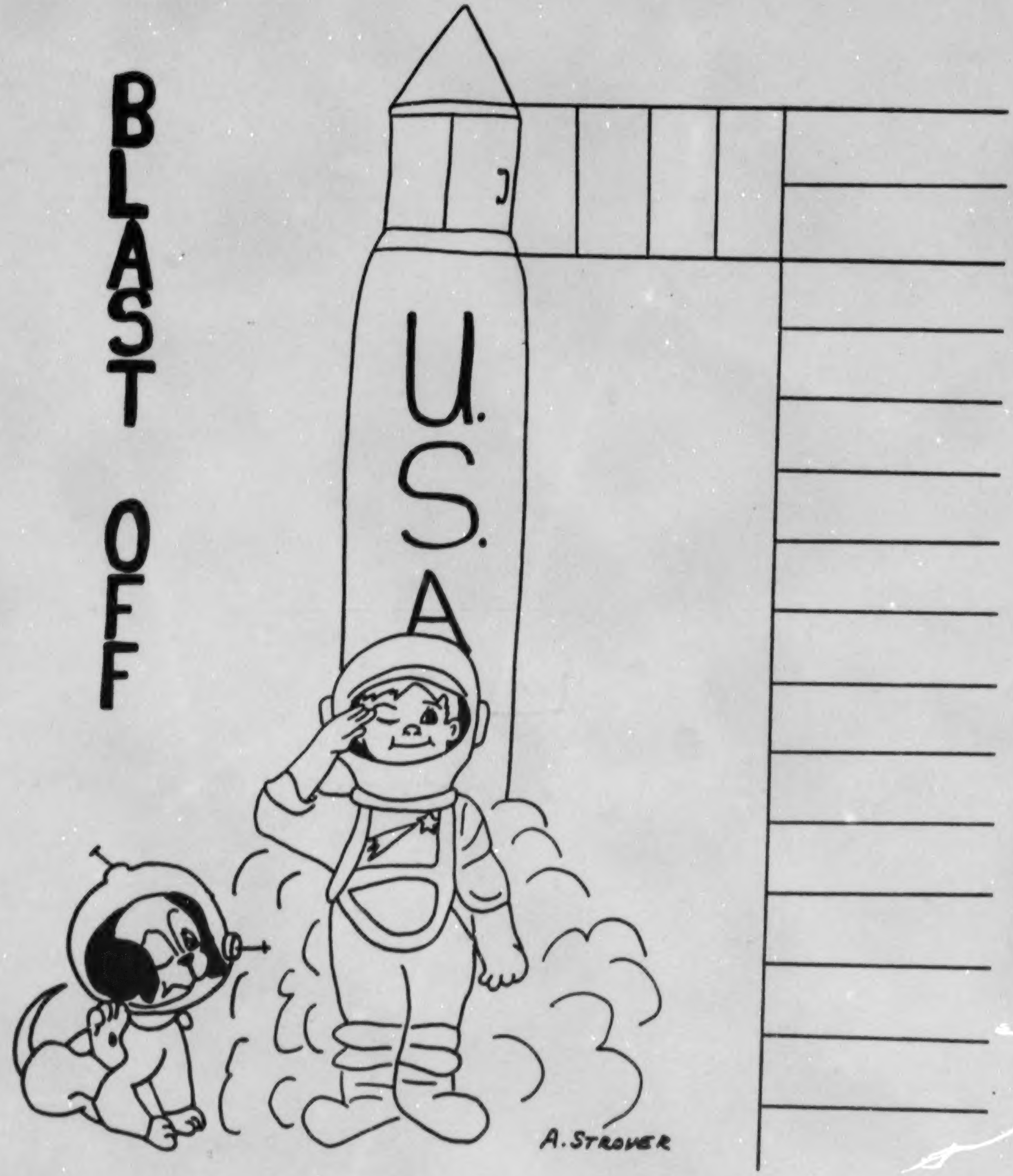


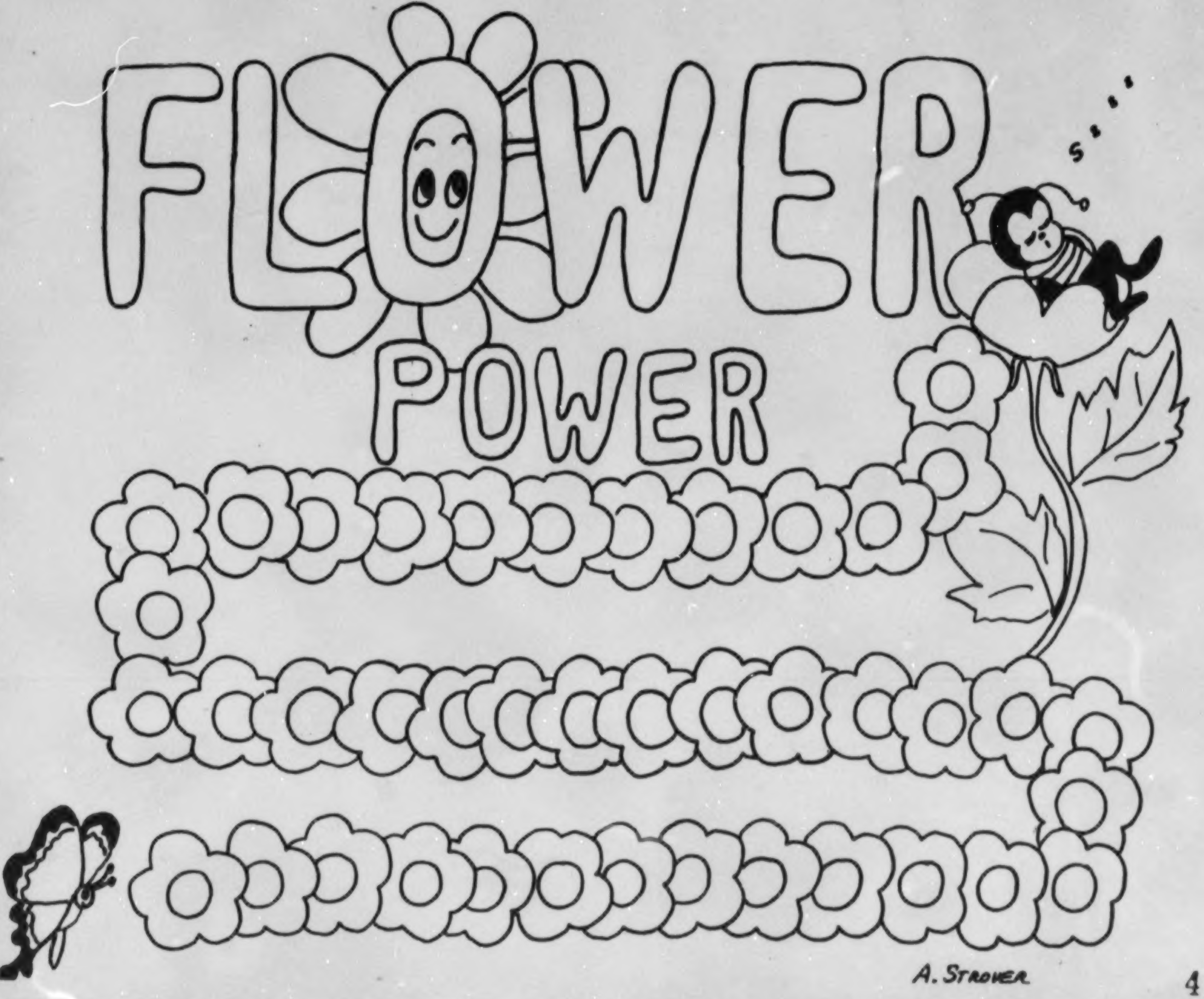
A. STROVER

431

CVCSD/A215(224)6-77

# BLAST OFF





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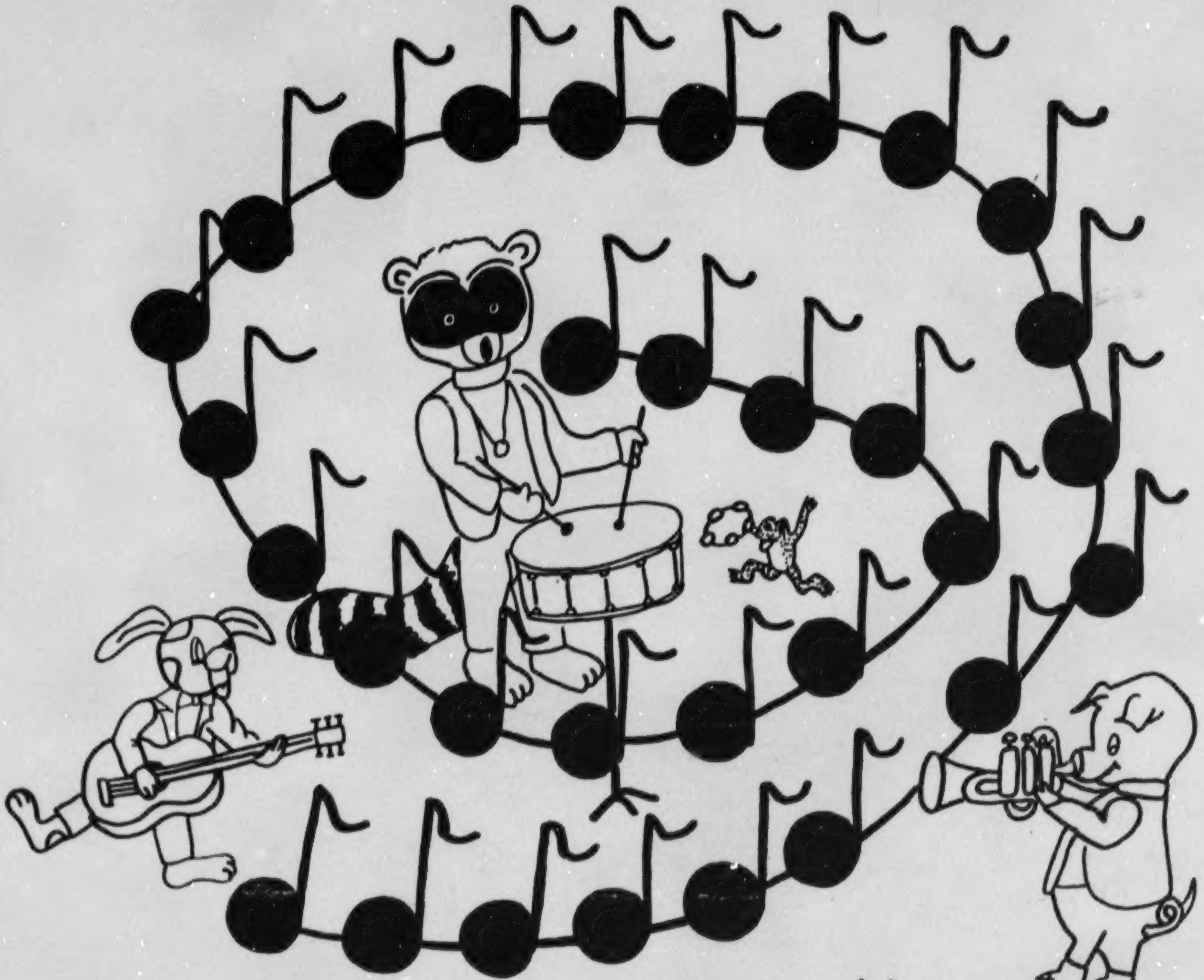
A. STROVER

257



A. STROVER

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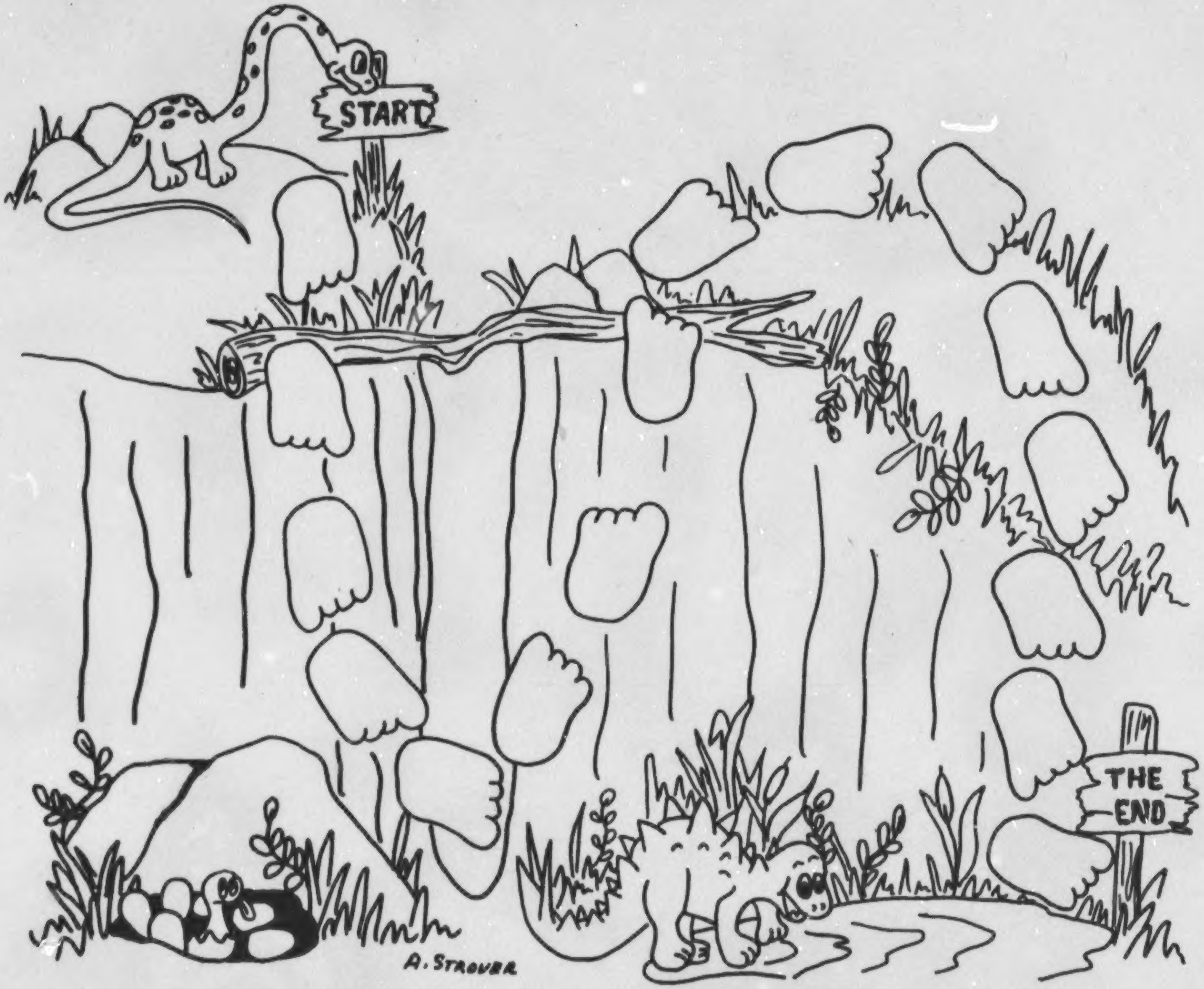

A. STROVER

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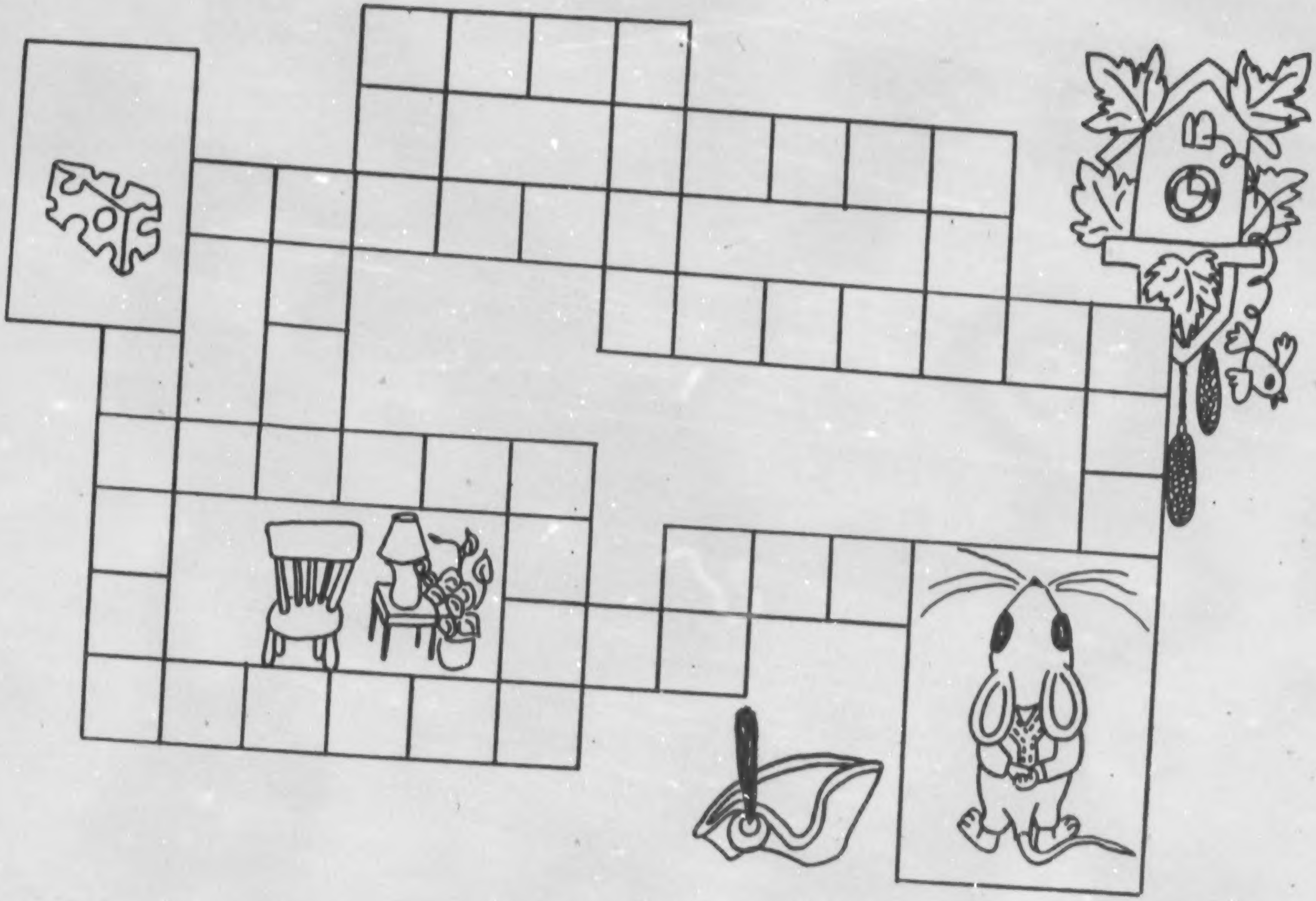

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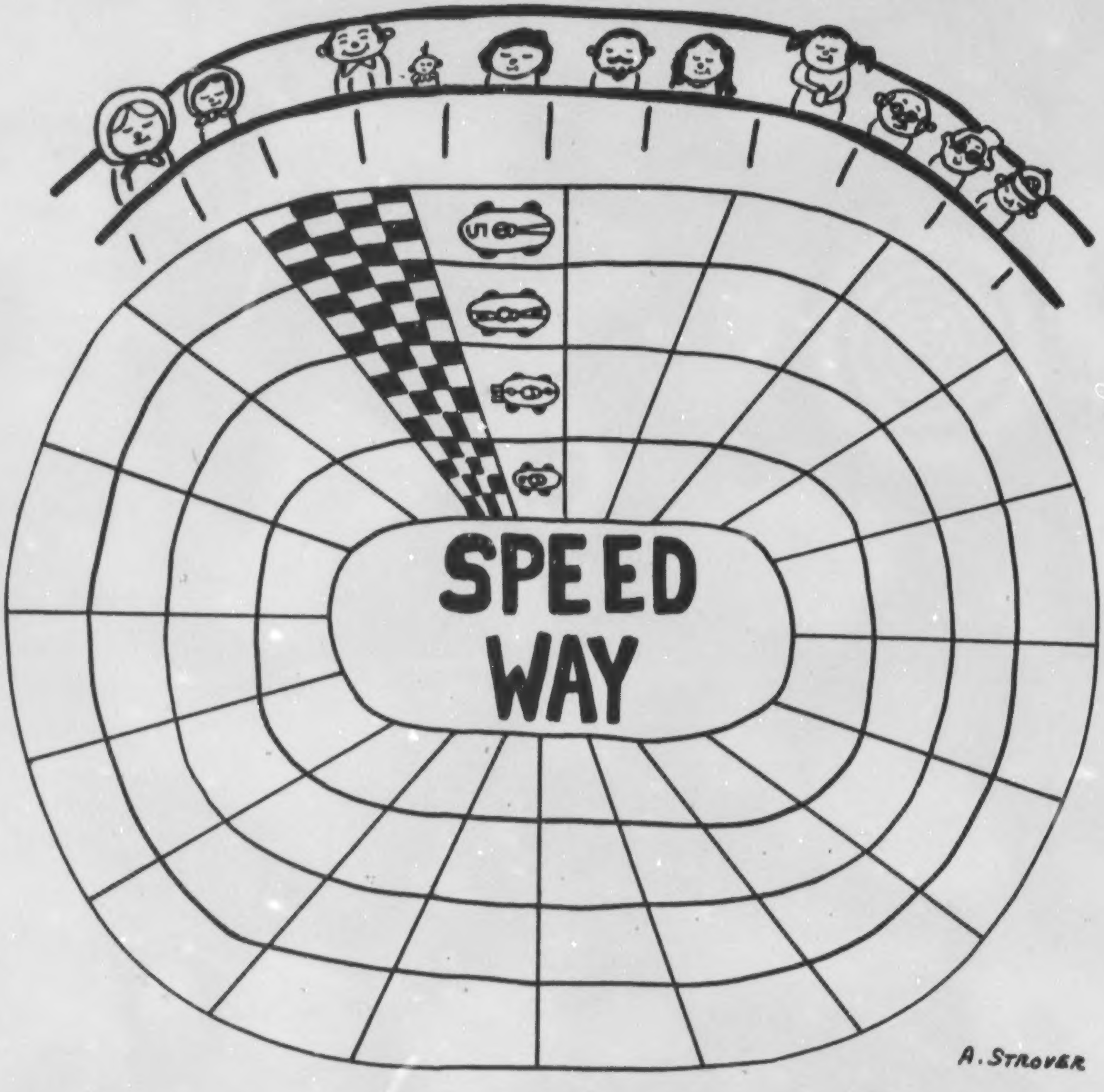
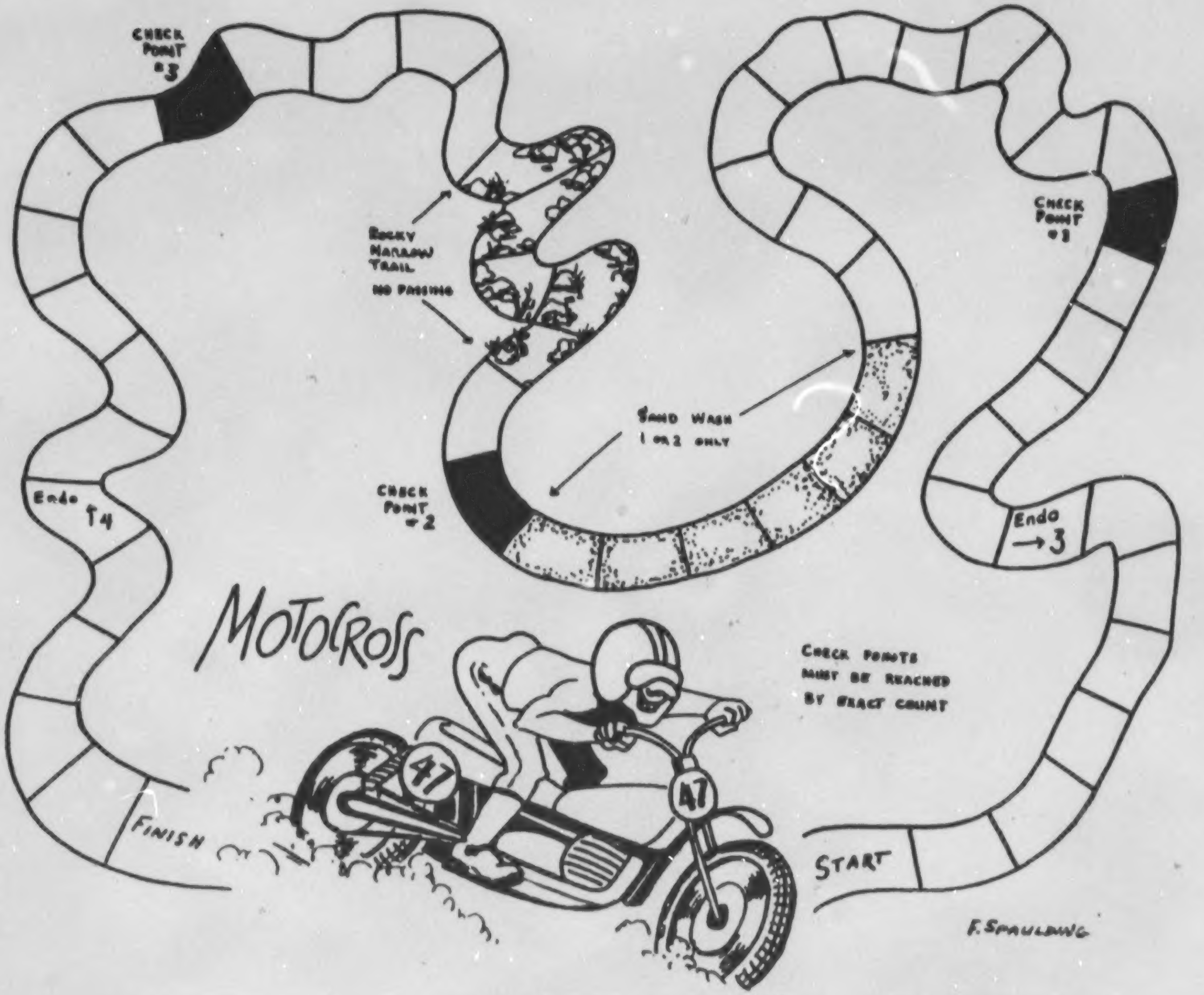
A. STROWER



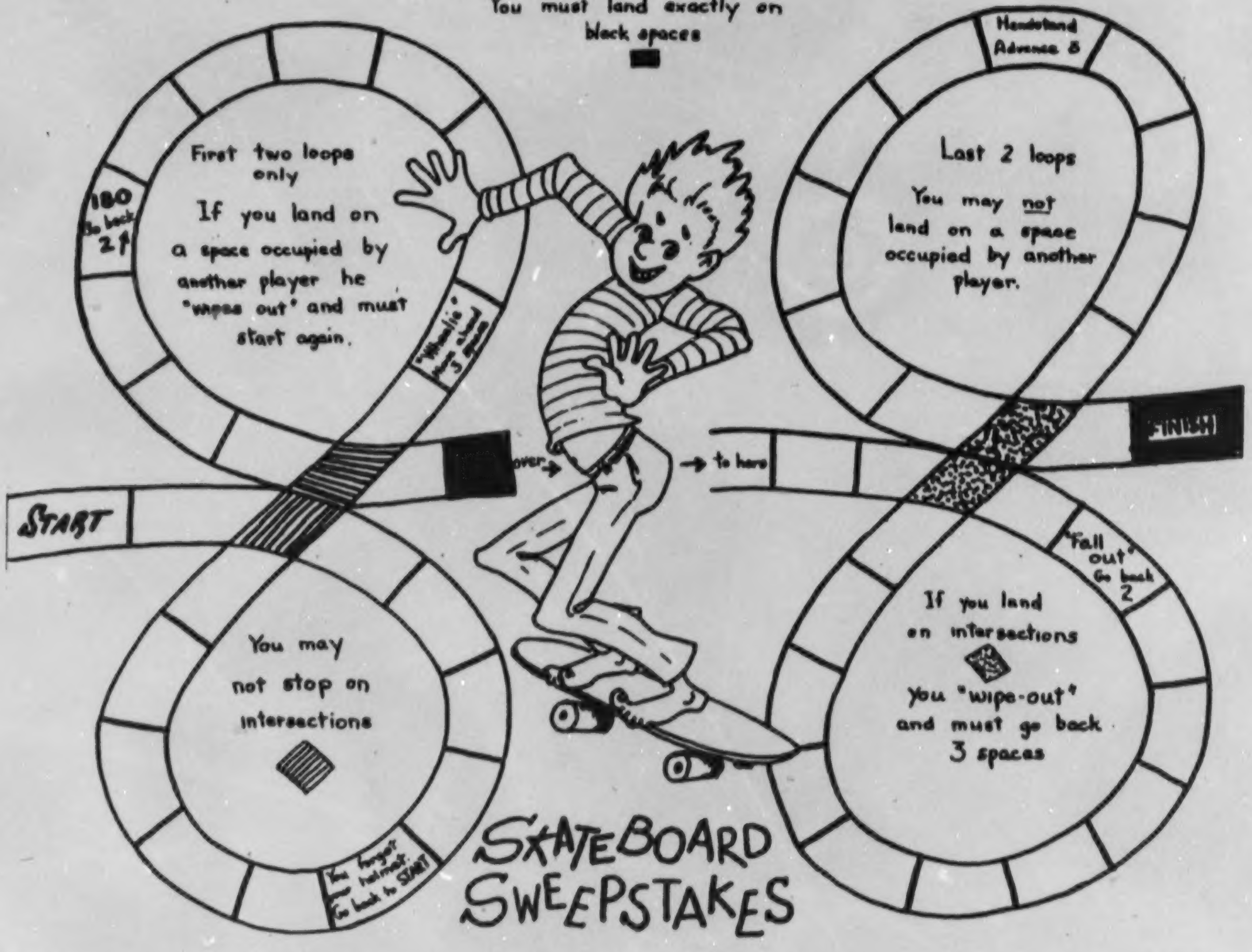
A. STROVER

CVCSD/A215 (230) 6-77

260


CHECK POINT #3
ROCKY NARROW TRAIL
NO PASSING
CHECK POINT #1
SAND WASH 1 OR 2 ONLY
Endo ↑4
CHECK POINT #2
Endo → 3
MOTOCROSS
CHECK POINTS MUST BE REACHED BY EXACT COUNT
47
47
FINISH
START
F. SPAULDING

You must land exactly on black spaces ■



First two loops only

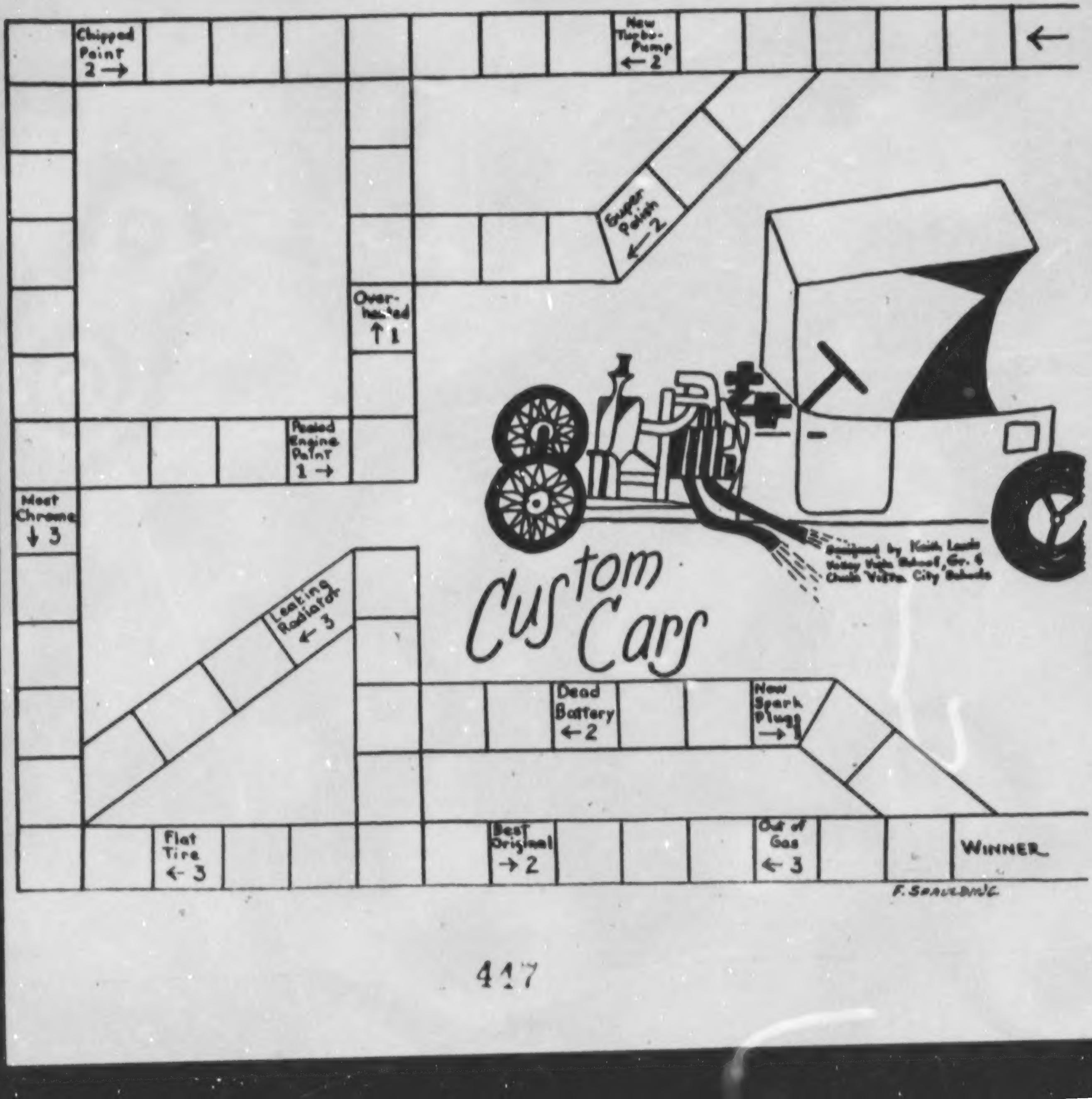
If you land on a space occupied by another player he "wipes out" and must start again.

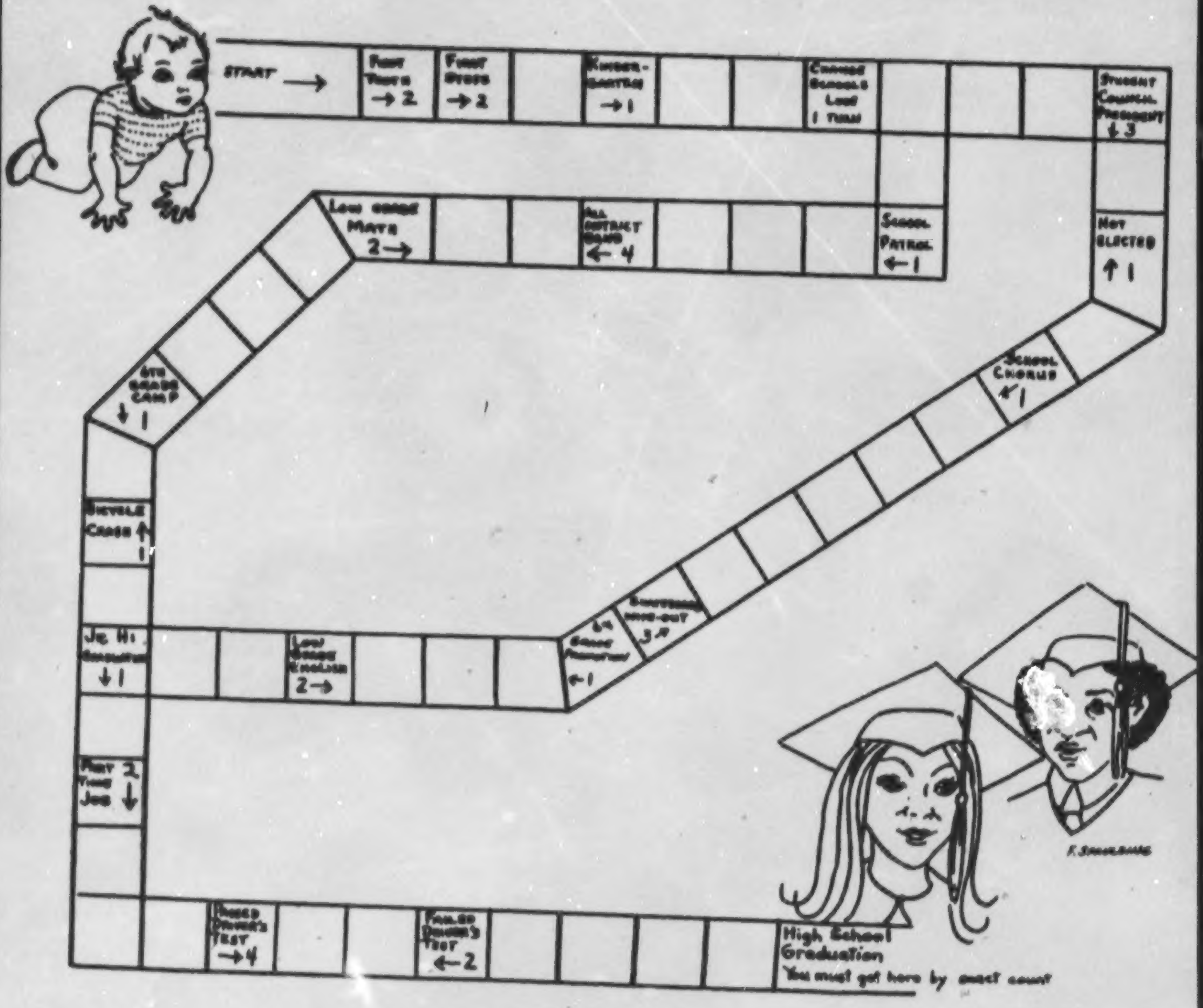
Last 2 loops

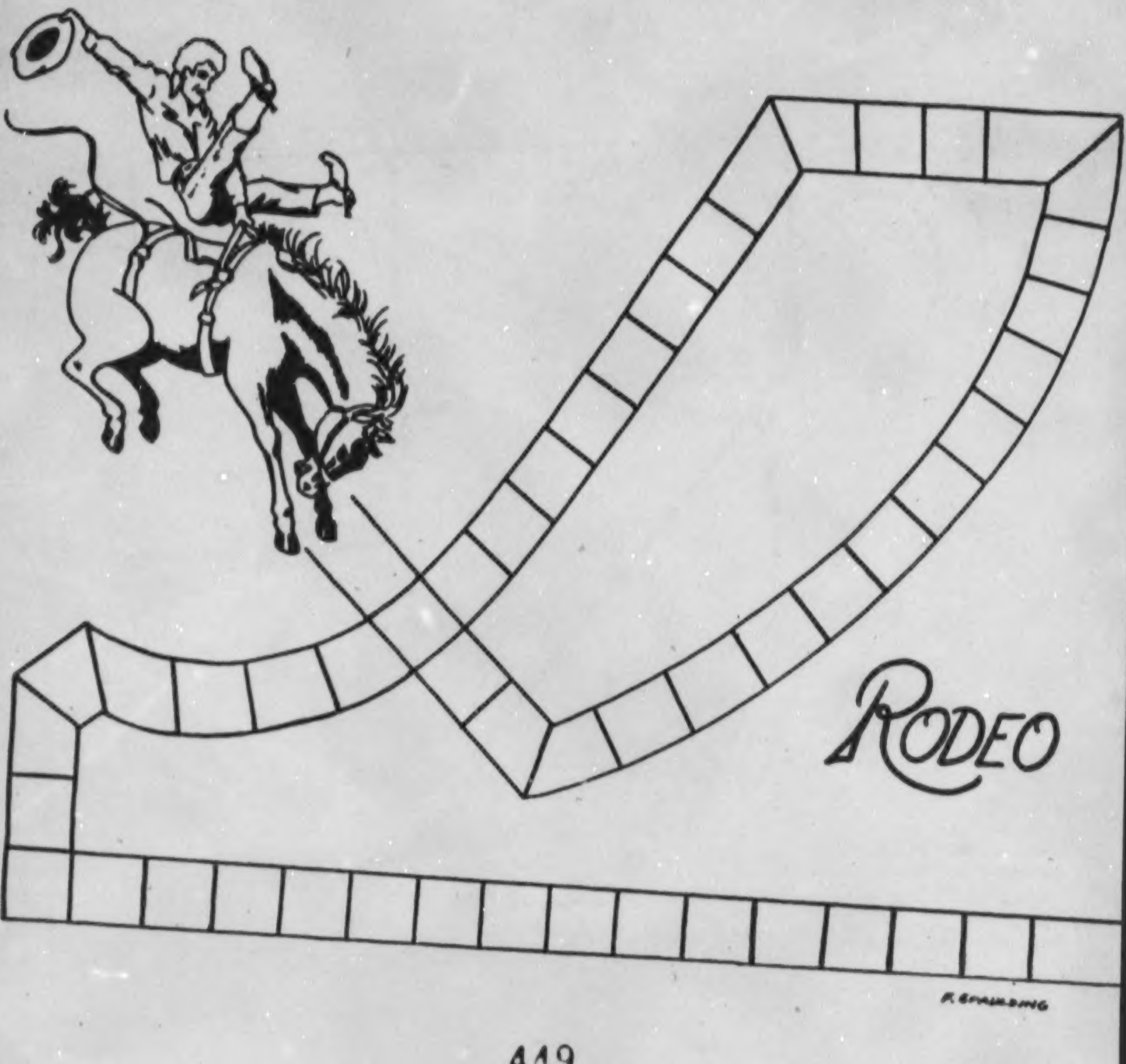
You may not land on a space occupied by another player.

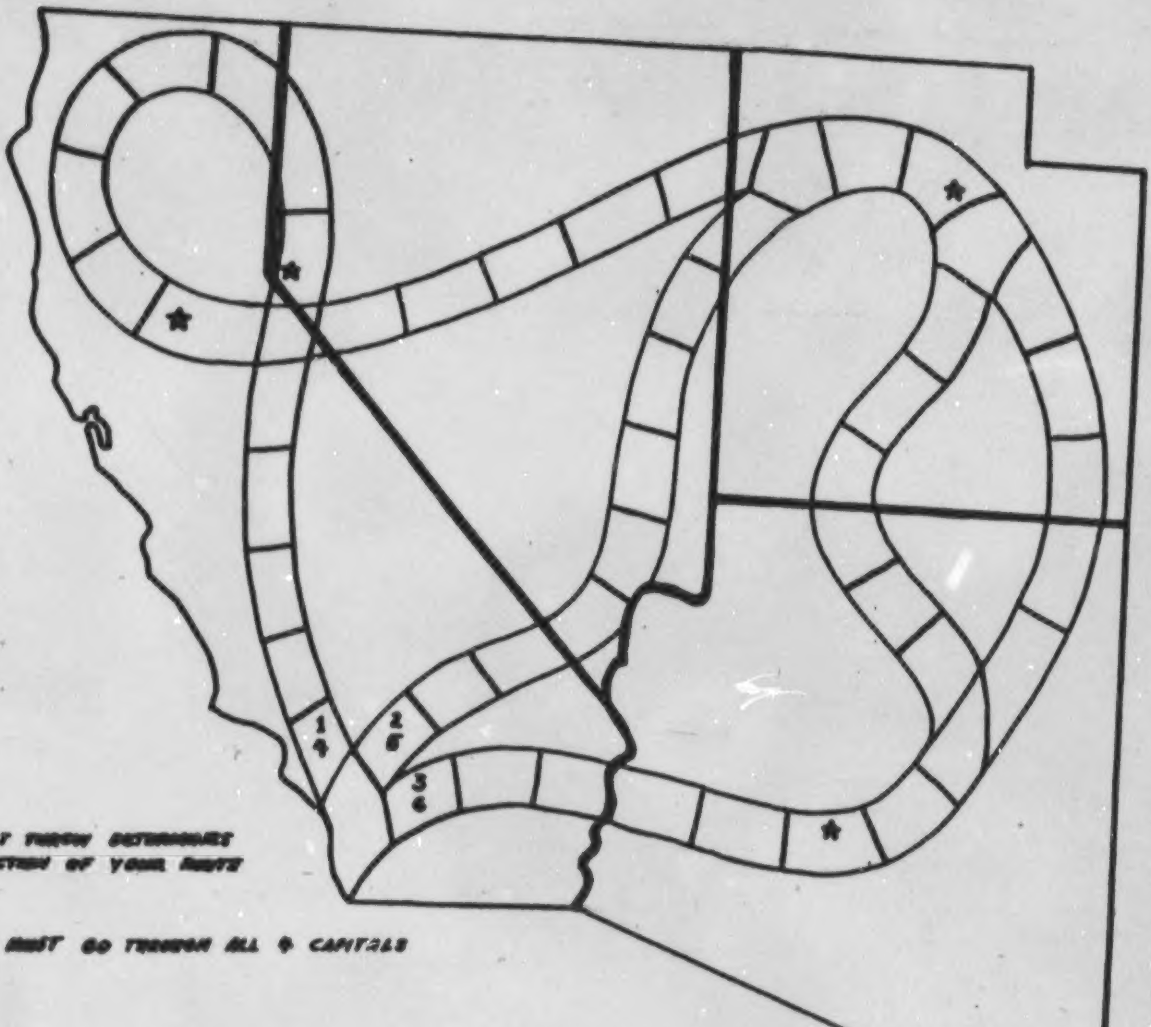
You may not stop on intersections ▨

If you land on intersections ▨ you "wipe-out" and must go back 3 spaces


←
New Turbo-Pump ← 2
Chipped Paint 2 →
Super Polish ← 2
Over-heated ↑ 1
Peeled Engine Paint 1 →
Most Chrome ↓ 3
Leaking Radiator ← 3
Custom Cars
Designed by Keith Lamb
Valley Vista School, Gr. 6
Chula Vista City Schools
Dead Battery ← 2
New Spark Plugs → 1
Flat Tire ← 3
Best Original → 2
Out of Gas ← 3
WINNER
F. SPAULDING

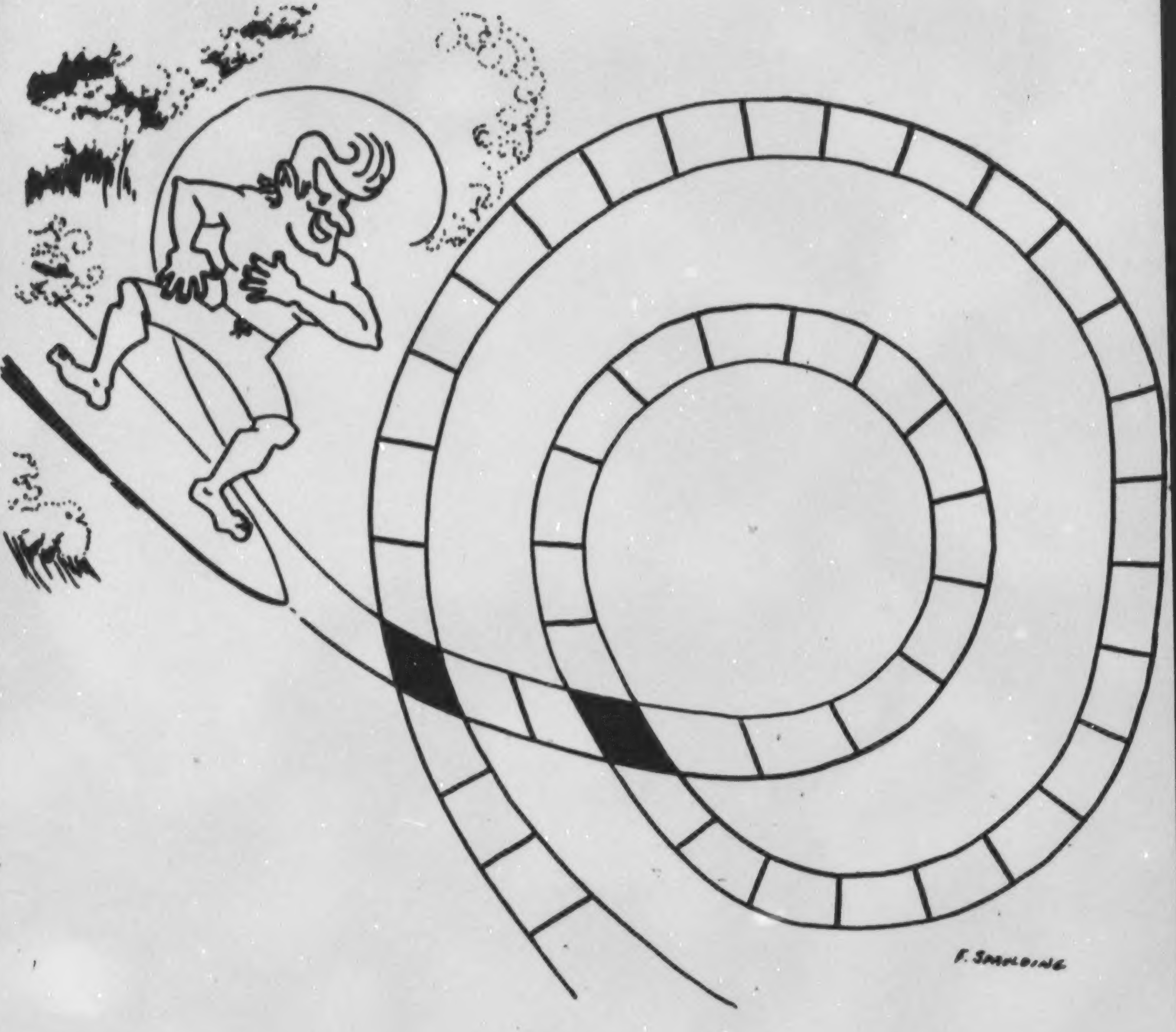

START →
First Tooth →2
First Steps →2
Kindergarten →1
Change Schools Lose 1 Turn
Student Council President ↓3
Not Elected ↑1
School Patrol ←1
All District Band ←4
Low Grade Math 2→
6th Grade Camp ↓1
Bicycle Crash ↑1
Jr. Hi Graduation ↓1
Low Grade English 2→
9th Grade Promotion ←1
Sophomore Hike-out 3→
School Chorus ←1
Part Time Job ↓
Passed Driver's Test →4
Failed Driver's Test ←2
High School Graduation
You must get here by exact count

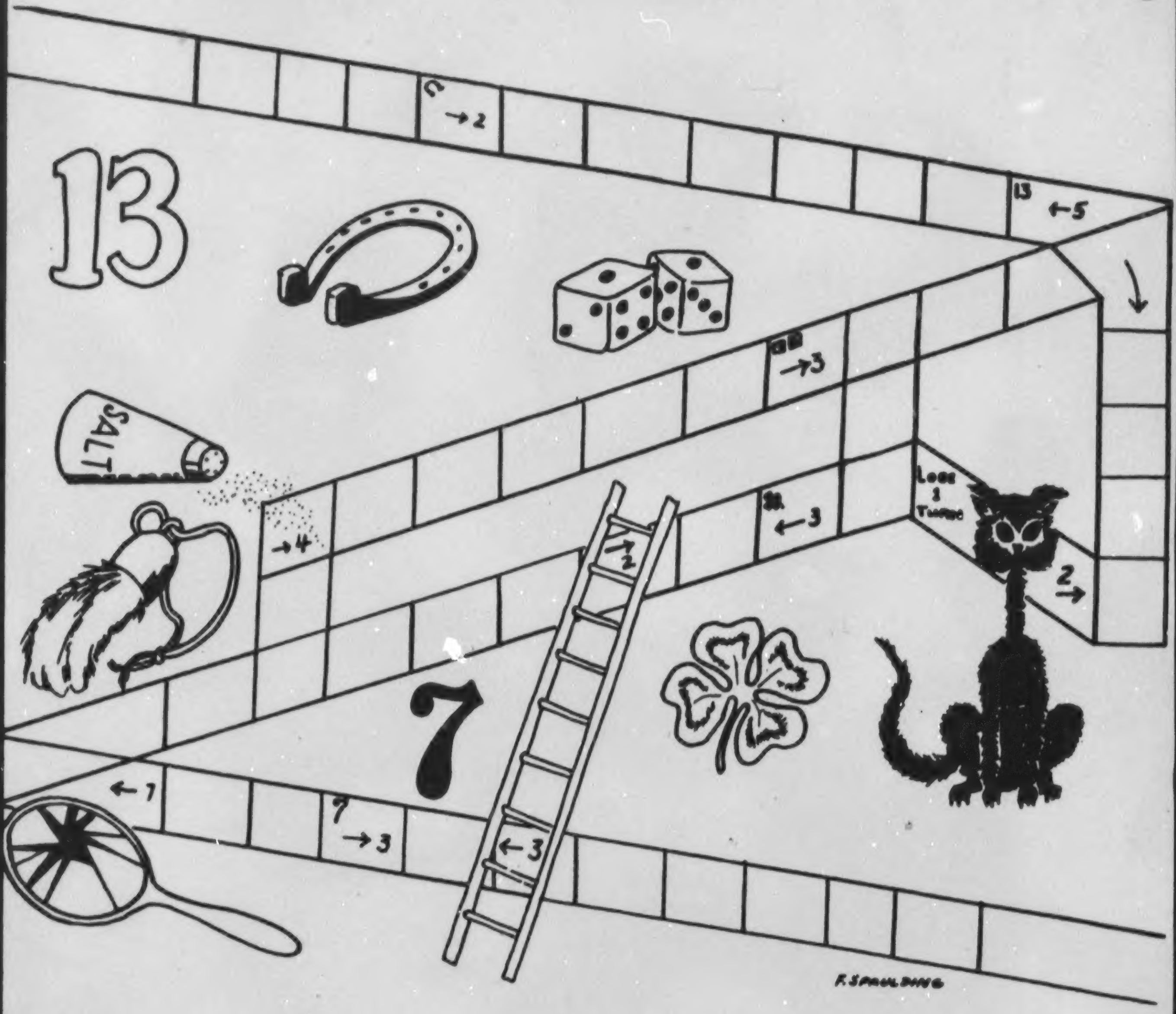

RODEO
R. SPAULDING



FIRST THROW DETERMINES
DIRECTION OF YOUR ROUTE

YOU MUST GO THROUGH ALL 4 CAPITALS


F. SPAULDING


→2
13
13 ←5
SALT
→3
→4
←3
Lose 1 Turn
2→
↑2
7
←1
7 →3
←3
F. SPAULDING

## LEARNING CENTERS

For the purpose of this book, a learning center will be called a reinforcemnt center and will be designated as an area in the classroom which contains a collection of activities and materials to reinforce or extend a skill or concept which has been taught by the teacher. Centers should be attractive, enticing and curriculum oriented. They should be an effective reinforcement tool for reaching many children. Some ideas that may be used in planning reinforcement centers and in measuring them for their effectiveness are listed below.

To function productively, a reinforcement center should:

- be curriculum related.
- be introduced by the teacher.
- be "multi-level" or should have several levels of achievement or accomplishment. The child should be able to adjust the level of difficulty to needs and abilities.
- contain a wide variety of activities to cover the range from simple to difficult and from concrete to abstract.
- contain multi-media materials to support the topic, concept or skills, such as a film strip projector and film strips, a cassette player and cassette tapes, books, clay, crayons.
- have several ways of doing the activities, such as: listening, reading, observing, or manipulating.
- provide the supplies needed or children should know where to find them.
- be provocative, encouraging the child to explore, investigate and manipulate.
- require few written directions for primary children, but have specific written directions for older children.
- have activities and materials that are self-correcting.
- have well defined rules for its use, such as a pre-determined limit on the number of students at the center at one time.
- provide several directions in which the student may work to develop, reinforce, or extend learning.
- include some self-correcting devices such as, color coding, matching numbers or shapes, answer keys, or puzzle matching.

- provide a place for finished and unfinished activities. Children should know where to store their projects and papers.
- have children responsible for taking care of the centers.
- be changed at regular intervals to be commensurate with curriculum changes and/or student interests.
- include some form of student evaluation, such as check lists, self-correction devices, or student logs.

For effective use of reinforcement centers it is essential that the teacher instructs students in the skill of using them. As each new center is developed the teacher should explain the new materials to groups of students.

REMEMBER: These centers are to be used as part of the daily program. They become an integral and effective part of curriculum planning as teachers recognize that basic skills may be reinforced in a variety of ways.

Note: An excellent source of examples of creative reinforcement centers is the book CHANGE FOR CHILDREN
*Ideas and Activities for Individualized Learning*
by Kaplan, Sandra, etal
Goodyear Publishing Co., Inc.
Pacific Palisades, California

## Suggestions for Making a Backboard for a Reinforcement Center

To make a backboard for a reinforcement center, cut a piece of 22" x 28" tagboard in half so there are two pieces 14" x 22" (Diagram A). Trace and/or draw and color a picture on one piece. Leave the other piece blank. Mount each piece of tagboard on a piece of chipboard that is the same size. Laminate the pieces or cover them with clear contact paper (Diagram B). Using 3/4" clear tape, cover all four edges of each part.

Using colored plastic library tape or masking tape, hinge the two pieces together along the 22" side. (In most cases the picture should be to the left of the blank side.) Be sure to allow enough room along the hinge so the sides will lie flat when folded (Diagram C).

To make backboards of different dimensions add a third section as pictured in Diagram D and E.

Enlarge one of the picture examples on pages 273 - 278 and trace it on the colored tagboard by using an opaque projector.

Note: Children's coloring books, illustrations in children's books and posters all provide sources of pictures to reproduce.

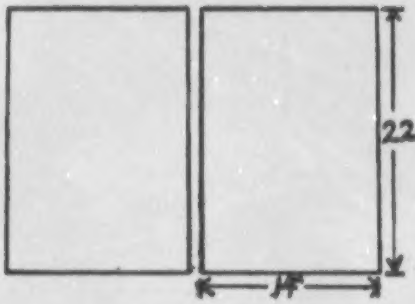


Diagram A

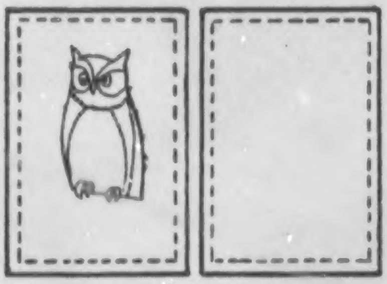


Diagram B
(Laminate)

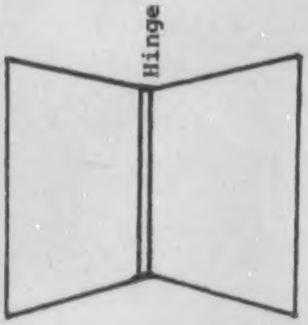


Diagram C

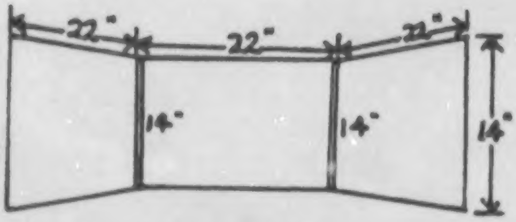


Diagram D

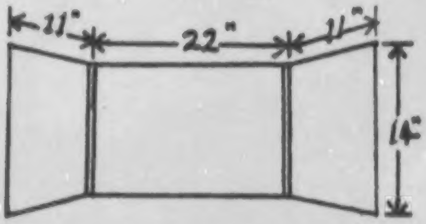


Diagram E

On the following pages are samples of pictures that may be enlarged, copied and colored to use in making attractive display boards. An opaque projector works well to enlarge the pictures.

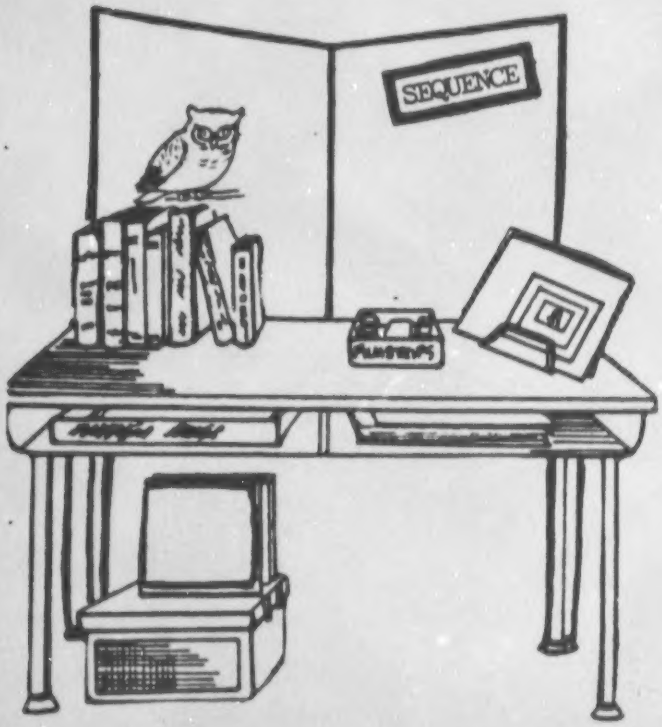
Under each picture is a phrase which may be used, changed, or deleted. The phrase provides a beginning statement that is open-ended. Leaving the display board open-ended makes it more versatile. For example: The picture of the owl states: "Be Wise About". On the blank half of the board, the teacher may list any skill to be reinforced.

Be Wise About - Sequence - Later, change the same board to say
Be Wise About - Short Vowels - and still later, the same board may say
Be Wise About - Synonyms

Instructions may be added as needed for each center. Centers may be changed easily if the teacher has several boards and a group of cards approximately 4" x 12" with the skills written on them. The 4" x 12" cards should be laminated or covered with clear contact paper. Masking tape may be folded to form a double sticking edge and the cards will adhere to the board.

The pictures on pages 273 - 274 would be appropriate for grades Kindergarten, first and second. Those on pages 275 - 276 are for grades three and four, and pages 277 - 278 are meant to appeal to fifth, sixth, seventh and eighth grade students.

An example of a reinforcement center is pictured below.



A Sequence reinforcement center might include activities such as:

| | | |
|---|---|---|
| Puzzlers | Page | 78 |
| Stories | Page | 76 |
| Put It Back Together | Page | 79 |
| The Jet Pilot | Page | 80 |
| Put It All Together | Page | 79 |
| Sorting Boards | Page | 233 |
| Barnell Loft Sequence Books | | |

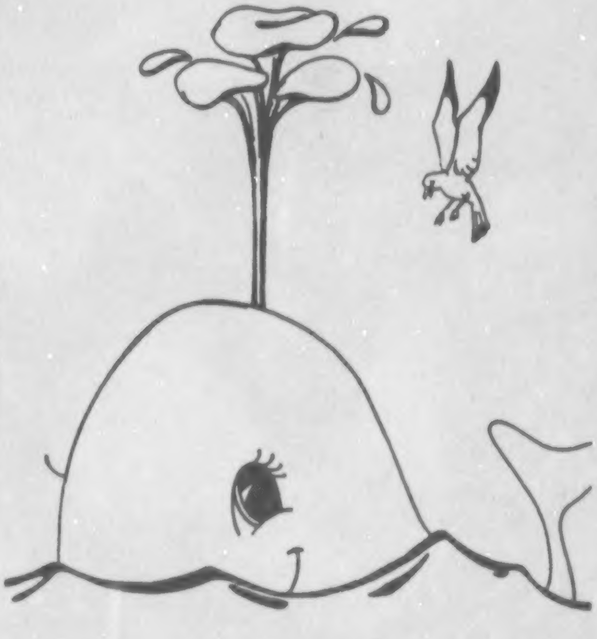
Note: Be sure to include at the center all materials needed by the students such as: pencils, paper, answer keys, evaluation sheet.

## PICTURES FOR REINFORCEMENT CENTERS

Put it all together with

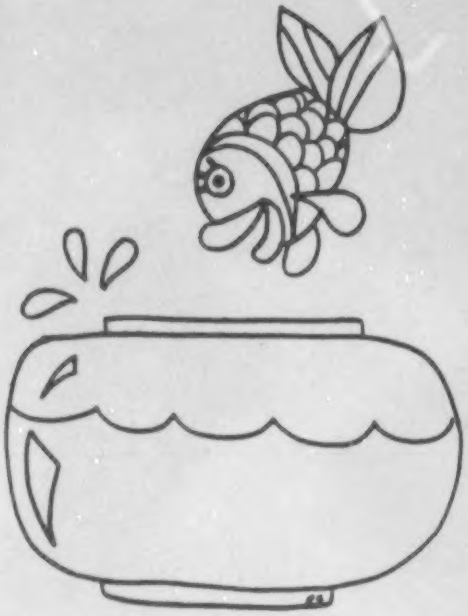
Be wise about

Bone up on



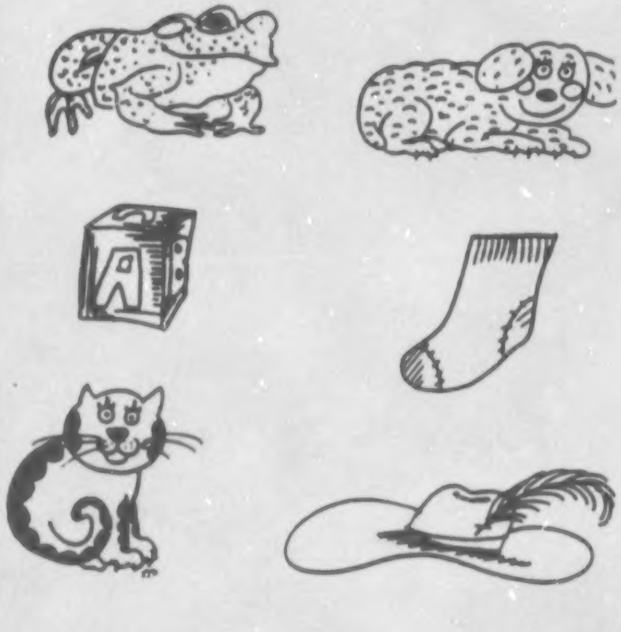
Have a whale of a time with

## PICTURES FOR REINFORCEMENT CENTERS



Jump into

Stretch into



Rhyme Time

I think I can
I think I can

# PICTURES FOR REINFORCEMENT CENTERS

Don't monkey around.
Learn about

Zoom into

Swing into

# PICTURES FOR REINFORCEMENT CENTERS

Go fishing for

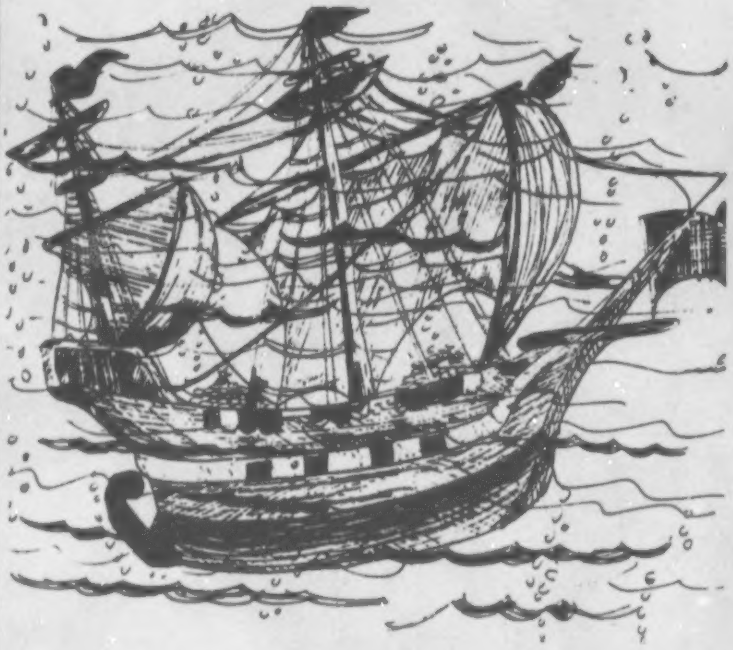
Don't be frightened of

Be an eager beaver about

Win with

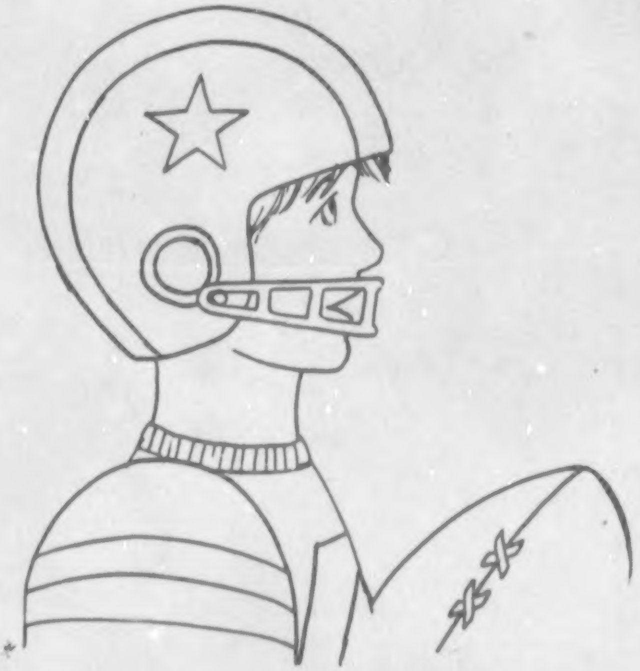
# PICTURES FOR REINFORCEMENT CENTERS

Hit your target with



Venture into

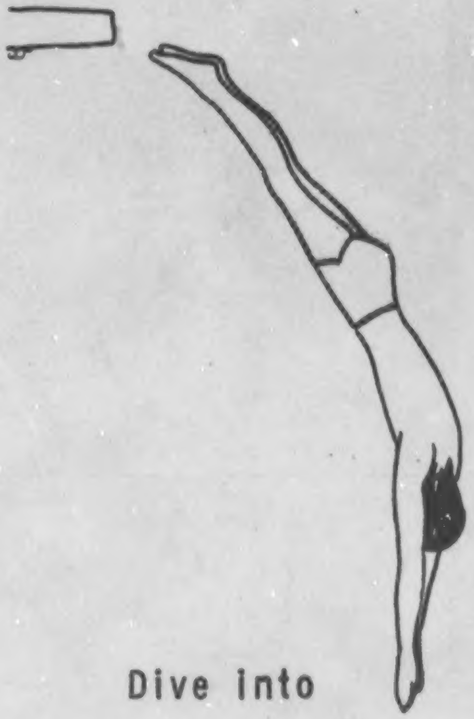
Reach your goal.
Learn about



Think about

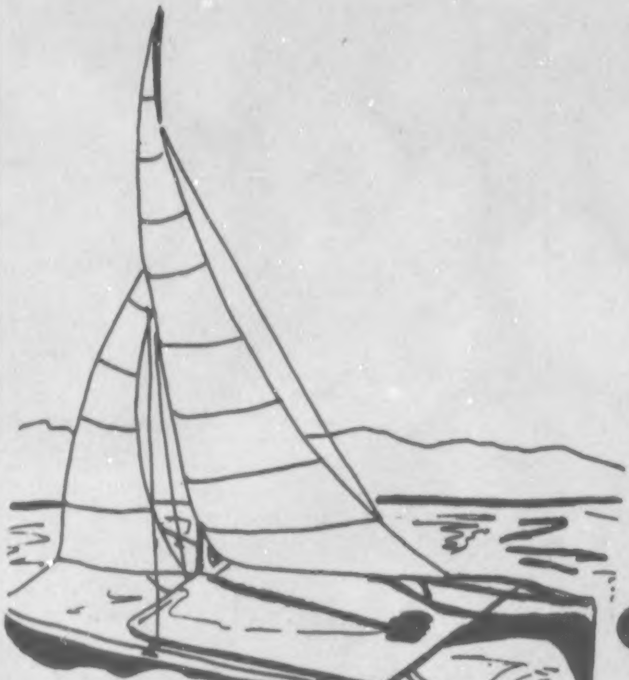
## PICTURES FOR REINFORCEMENT CENTERS

Band together for



Dive into

Take a good look at



Sail into

# FOR PARENTS

A substantial amount of research in reading states that children who have been read to on a daily basis at home are those children who will achieve better at school. Just as important as the ability to read is the desire to read. Children want to do what the adults they admire do. So let your child see you reading every day. Let your child know that you go to books, magazines, and newspapers for pleasure and information. Encourage your child to read to you. Most children just learning to read want to demonstrate their newly achieved ability to the people who mean most to them, namely their parents. So, lend a willing ear when your child wants to read something to you.

Help if necessary. If your child is just beginning to read, don't hesitate to give your child the word instead of insisting on sounding it out. Your child will be receiving adequate instruction in phonetic skills at school. You might confuse your child by trying to teach these skills at home. Sometimes a child can skip over an unknown word and, by reading the rest of the sentence, can figure out the word from the context of the sentence.

Praise your child. Learning to read is not as easy as the adult reader thinks it ought to be. A child needs encouragement, so praise your child for any successes, however limited. Always assume that your child is trying. Be patient. Do not be concerned, your child may miss the same word many times, even though you keep supplying it. If you are patient, sooner or later your child will learn the word. If you find you are getting angry or impatient, stop and do something else. A child who is frightened, upset, or under pressure is less likely to learn than a child who is calm and unworried.

Obtain library cards for you and your child. The power to borrow library books of one's own choice not only builds self-esteem but also helps children see books as a good source of entertainment and information. Ask the librarian to suggest good books. Buy books for your child. Suggest to friends and relatives that birthdays and holidays are good times to buy books for children. The child who owns books is usually interested in reading them.

Above all, never imply that your love for your child somehow depends on his or her ability or interest in reading. The following activities can help, but please keep them as games. Enjoy them and enjoy your child. Learning to read is such a big job that you should not make it harder for a child by pushing too far - too fast.

Following is a list of activities which you will find helpful to reinforce reading skills as you work with your child at home. Also, included is a listing of recommended paper back books for you and your child to read for enjoyment. See pages 295-301.

## KINDERGARTEN ACTIVITIES

### Read a Story

Read to your child every day for a period of 10 - 15 minutes.

### Sorting Objects

Give your child a collection of various objects such as: buttons, beads, colored toothpicks, macaroni in varied shapes, plastic spoons, knives, and forks. Ask your child to sort them according to kind, color, size or shape.

### Sorting the Laundry

Let your child help you sort the laundry, putting dark clothes in one pile and light in another. Include matching pairs of socks.

### Classifying Magazine Pictures

Cut pictures from magazines or ads from newspapers and make separate piles of all the pictures of food, furniture, flowers, shoes, shirts, ties, animals. Have your child sort the different food pictures into categories such as: fruits, vegetables, meats, baked goods, dairy products, candy.

### Sounds

Call your child's attention to sounds - animal sounds, street noises, sounds of musical instruments, sounds of household appliances. Help him or her categorize sounds such as:

1. Loud, sharp noises
2. Soft, soothing sounds
3. Rattling sounds
4. Happy sounds

### Rhyming

Play rhyming games: "I'm thinking of an animal at the zoo. It's name rhymes with chair. What is it?" Or "On your head you wear a hat." Or "What animal rhymes with that?" Or "What words do you know that rhyme with cake?"

### What Did You See?

After a trip to the grocery store or some other shared experience, discuss what your child remembers about things that were seen.

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## Stories

Write down (refer to manuscript model page 292) a story your child tells you and have your child draw pictures to go with it. Reread the stories together.

## Puzzles

Commercial puzzles should have large pieces. Puzzles may be made by pasting interesting colored pictures on cardboard and cutting them into good sized pieces. As the child works the puzzles, discuss how the pieces fit together. Six to ten pieces are ample.

## Rhymes

Read or repeat from memory nursery rhymes and name the words that rhyme. Encourage your child to memorize the nursery rhymes to share with you or other members of the family.

## Story-telling

Have child retell a story you have read together. (Attention span may be very short for children at this level. Try to pick short, action-filled stories.)

## Clapping Game

Clap a rhythmic pattern (begin with only 2 or 3 claps in your pattern). Have your child repeat it exactly. If your child can't remember the pattern, do it together. Continue until the sequence of 5 or 6 claps in a pattern is remembered.

## Guessing Sounds

Have your child close his or her eyes and guess what's happening as mother or dad open the refrigerator, beat an egg, drain water in the sink, chop nuts, or any other common sound.

## Select a Picture

Select a picture from a magazine and have the child name everything while you write the words directly on the picture. For instance, in a picture of a man the items such as feet, nose, elbow, hand, face, suit might be named.

# FIRST GRADE ACTIVITIES

## Read a Story

Read to your child every day for a period of 10 - 15 minutes.

## Clapping Game

Clap a rhythmic pattern (begin with only 3 or 4 claps in your pattern). Have your child repeat it exactly. If your child can't remember the pattern, do it together. Continue until the sequence of 7 or 8 claps in a pattern is remembered.

## Making Letters

Help your child learn letter names by using clay or pipe-cleaners to make the letters of the alphabet. You might want to have the child name them.

## Stories

Have your child make up a story for you to write (refer to manuscript model page 292). Let your child illustrate the story and read it together several times.

## Beginning Sounds

Use old magazines and catalogs to find pictures that begin with the same beginning sound as "man". Do the same for other sounds.

## Rhymes

Make up riddles using rhyming words. For instance,

> I am dark grey. I come from a fire. I rhyme with poke. (smoke)
> This is a house for a horse. It rhymes with table. (stable)

## Show and Tell

Make two sets of cards with letters of the alphabet. Hold up one of your cards, or place it on the table saying, "This is __________ (name the letter). If you have a(an) __________, place it next to mine". Carry this one step further after names of letters are known and ask the child for a certain letter.

## Name the Letter

Help your child notice known letters or words on common place items such as: cereal boxes, outdoor signs, television, stories.

## See it and Say it

Say, "I'm thinking of something in the kitchen that starts like sat." (Suppose the answer is sink.) The child may say salt, soup, sandwiches, salmon, sink, at which point he or she would have guessed correctly. Continue with objects in other rooms in the house, or outside of the house, beginning with various consonant sounds.

## Grocery Store

Start the game by saying, "I own a grocery store and sell potatoes". The child must say potatoes and add another word beginning with p, something found in a grocery store. Vary the kind of store and the consonants, i.e. hardware store, dime store, drug store.

## The Missing Word Game

Another game you can play with your child at meals or while doing something else. Say, "I'll say something and leave out the last word. You tell me what word you think I left out." A typical sentence might be: "I guess I'd better open the ________". If your child responds with any word that makes good sense such as: door, window, gate, package, envelope, bottle, give praise and ask for suggestions of other words that would make sense there. Try to use sentences in which many different words would make sense at the end.

## SECOND GRADE ACTIVITIES

### Read a Story

Read to your child every day for a period of 10 - 15 minutes.

### Stories

Have your child make up a story for you to write (refer to manuscript model page 292 . Let your child illustrate the story and read it together several times.

### Nursery Rhymes

Continue using nursery rhymes and extend to other poetry as available, noting rhyming words.

### Name the Object

Have your child name all the toys, animals, foods, or colors, he can think of in a set time limit.

### Put-Togethers

Pronounce a word which when added to another makes a compound word. For instance, say "day". Your child might say "daylight". Then the child says a word for you to use in making a compound word.

### Name the Story

Tell an incident in a story that is familiar to your child. He names the story, and then proceeds to relate an incident from another story to which you must respond.

### Last Letter Tells

You or your child begins by saying something like, "I like oranges." The next player must indicate what food he or she likes by using the last letter of oranges. Each player in turn uses the final letter of the previously mentioned food. Try other categories such as toys, animals, TV programs.

## THIRD GRADE ACTIVITIES

### Read a Story

Read to your child every day. A chapter a day from a full length book is excellent.

### Traveling Alphabet

While driving, have the child name things as they are seen that fit into an alphabetical list. For instance, something that begins with an "a" must be found and named before finding something that begins with "b".

### Don't Say the Word

The parent says, "I'm thinking of a word that rhymes with bumps". (Thinking of stumps.) The child tries to guess the word, but must not say it. Instead the child asks questions: "Is it what a camel has on his back?" "Is it a disease where the neck swells?" "Is it what is left when trees are cut down?"

### Have a Newspaper Treasure Hunt

Have your child look through a newspaper and find words that fit a pattern such as: compound words, short vowels.

### Cooking

Encourage your child to make something from a child's cook book.

### Letter Writing

Have your child write notes to relatives, teacher, principal, or classmates.

### Make a Sentence

Have each player contribute one word toward a complete sentence which must be finished by the last player's word, or by the last player regardless of the number of words used.

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## FOURTH GRADE ACTIVITIES

### Read a Story

Read to your child every day. A chapter a day from a full length book is excellent. Children of this age are usually intrigued by an Almanac and the Guiness Book of World Records.

### Grocery Shopping

Have your child write and read the grocery list. (Give lots of help!)

### Cooking

Have your child read and follow the directions in a simple cook book to help prepare a meal.

### Collections

As your child develops an interest in collecting such things as shells or rocks, help locate information for labeling and telling about the collection.

### Compounds Continued

You or your child begins the game by giving a compound word and player two responds by using the second half of the given word as the first part of another compound word such as rowboat - boathouse, horseshoe - shoehorn, airtight - tightrope. Alternate the player giving the first word. A player is given 1 point for each correct response. If the player is unable to give a correct response, the other player may do so and receive the point.

### Just the Opposite

Begin by saying a word and your child thinks of an opposite word, such as day - night, hot - cold, up - down. Each player takes a turn at saying five words with the other player giving an opposite word. Give one point for each correct answer.

### Categorize the Grocery List

For practice in categorizing have your child categorize your grocery list for easy shopping.

# FIFTH GRADE ACTIVITIES

## Read a Story

Read to your child every day. A chapter a day from a full length book is excellent. The Guiness Book of World Records or an Almanac provide intriguing reading material.

## Run, Run, Run

See how many meanings you and your child can find for the word run. Here are a few:

1. I can run fast.
2. I have a run in my stocking.
3. Now that I've wound the clock, it will run.

Do the same for other words that have multiple meanings, such as spring, light, ring, row, jam, fair and pool

## Area Codes

Have your child become familiar with the telephone directory by finding the area codes for different states or cities, for example Alabama (205), San Francisco, California (415).

## The Yellow Pages

In the yellow pages of the telephone book find: a shop to repair a bicycle, a Chinese carry-out food service, and a museum.

## Classified Ads

In a classified advertising section find a house you would like to occupy, or how much it would cost to buy a recreation vehicle.

## Headlines

Cut up several newspaper articles. Cut off the headline. Have your child read the separated articles and headlines and match them.

## Television Schedule

Tell your child that he/she is allowed to watch TV one hour each school day and three hours on the week-end. Have your child prepare a week's schedule of shows to watch.

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## SIXTH GRADE ACTIVITIES

### Read a Story

Read to your child every day. A chapter a day from a full length book is excellent. The Guiness Book of World Records and an Almanac provide intriguing reading material.

### Synonym Seekers

Say, "Can you guess the word I'm thinking of? It means about the same as joyful." The child must guess the synonym you have in mind. When the guess is correct the child selects the next word. (It will be helpful to have a dictionary or a thesaurus for reference.)

### Report the News

Have your child report on news items from the daily paper to the family.

### Building

Have your child read and follow directions for building something.

### Locate the Setting

Put up a large map of the world and encourage your child to locate the settings for stories and books. Using colored pins or stickers makes the activity more fun.

### Authors - Authors - Authors

Help your child locate information on the authors of books that have been read, preferably in the library.

### Collecting Poetry

Encourage your child to make a collection of favorite poems that have been read or written. Illustrations will add to his enjoyment.

### News Reporter

Encourage critical reading of newspaper items. Talk about the items. Compare an editorial with a newspaper article on the same subject.

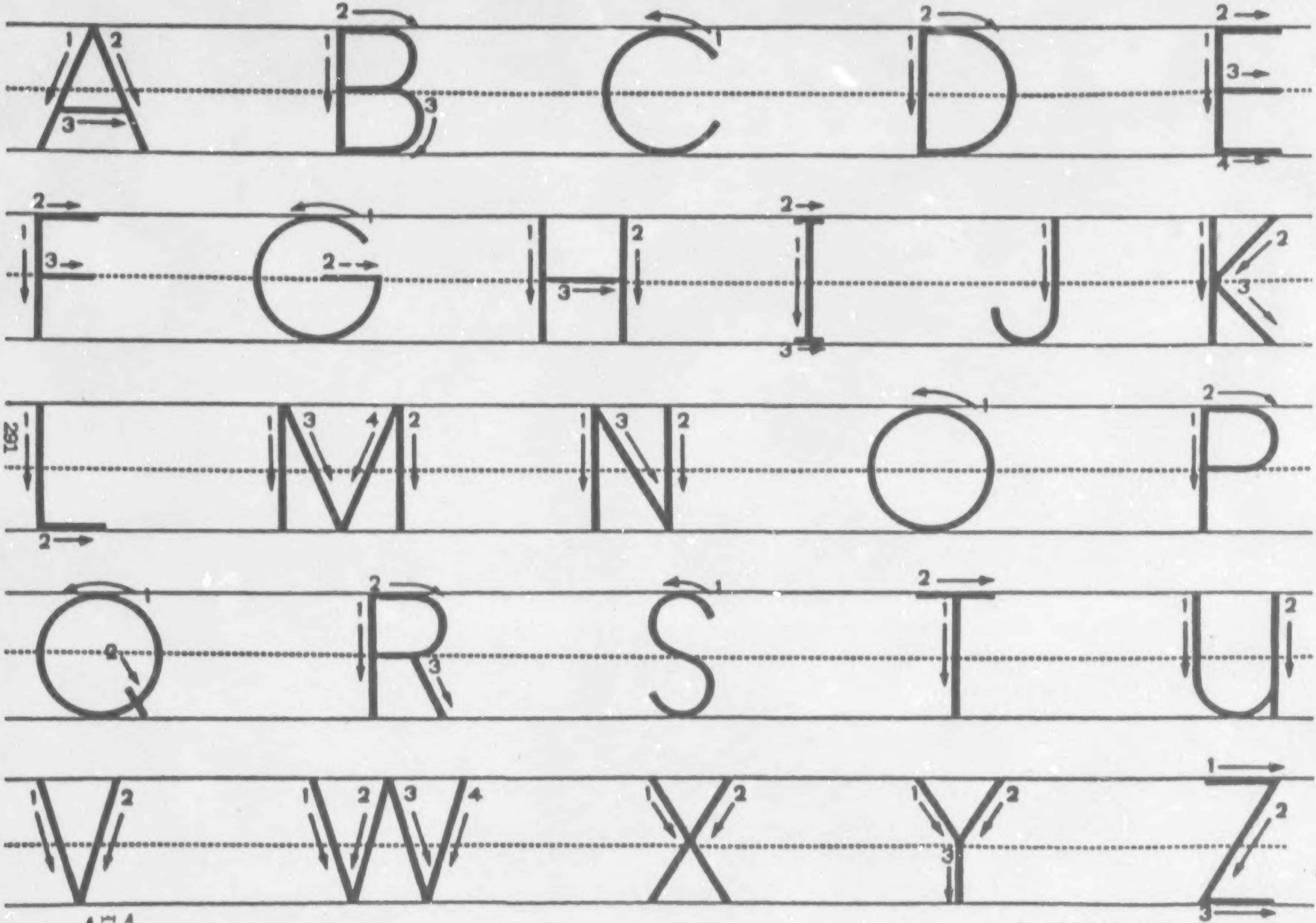
### Cook a Dish

Help your child find a recipe in a cook book and follow the directions carefully.

### Best Buys

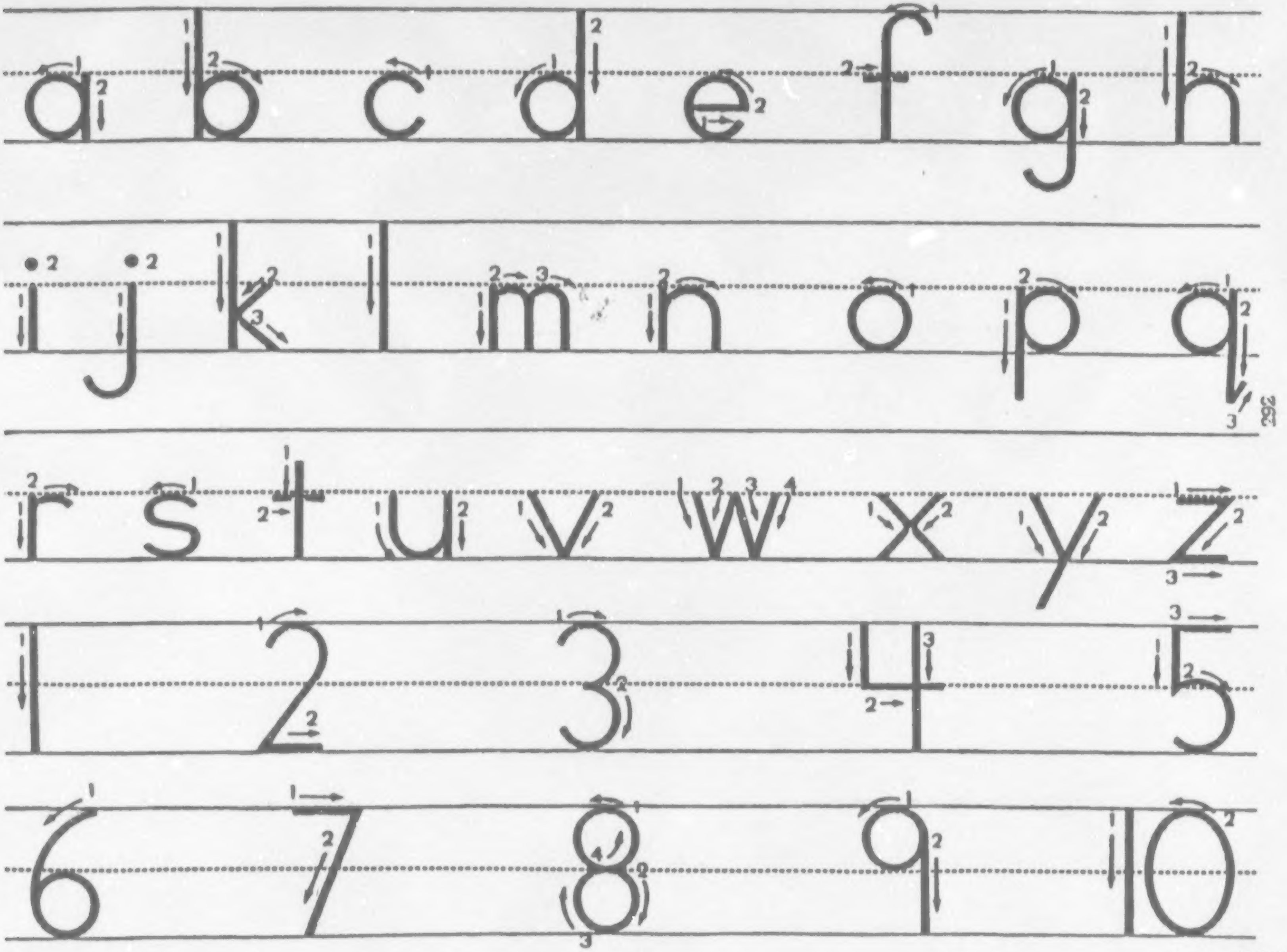
Have your child check the Thursday grocery store ads in the food section of the newspaper for the best buys on your grocery list. Compare various ads from different stores.

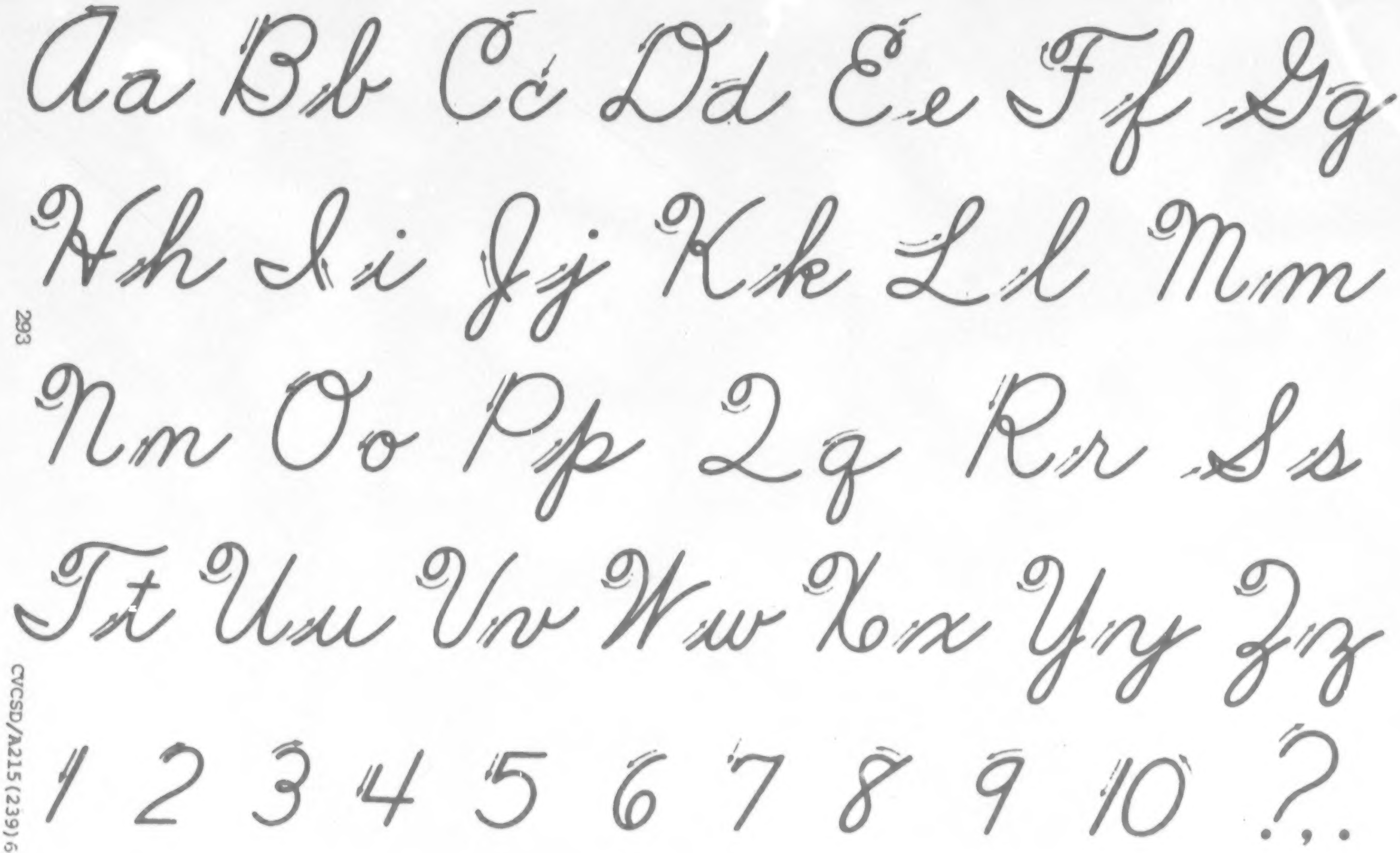
# MANUSCRIPT CAPITAL LETTERS



CVCSD/A180(110)/REV.4-64

# MANUSCRIPT SMALL LETTERS





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CVCSD/A215(239)6-77

The following is a list of recommended paper back books which you might want to purchase for birthdays, holidays and other special occasions.

## Ages 3 - 6 - Picture Books

| TITLE | AUTHOR | PUBLISHER |
|---|---|---|
| The Tenth Good Thing About Barney | Judith Viorst | Atheneum, Aladdin |
| Picturebook Dictionary | Dan Siculan | Rand |
| Big Joe's Trailer Truck | Joe Mathieu | Random, Pictureback |
| Who's Got the Apple? | Jan Loof | Random, Pictureback |
| Puppies Are Like That | Jan Pfloog | Random, Pictureback |
| Counting on an Elephant | Jill McDonald | Penguin, Puffin |
| Ed Emberley's Little Drawing Book of Birds | Ed Emberley | Little |
| Ed Emberley's Little Drawing Book of Trains | Ed Emberley | Little |
| Ed Emberley's Little Drawing Book of the Farm | Ed Emberley | Little |
| Ed Emberley's Little Drawing Book of Weirdos | Ed Emberley | Little |
| My Five Senses | Aliki | Crowell, Crocodiles |
| Wonky Donkey | Charlotte Hough | Penguin, Puffin |
| What Do You Do With a Kangaroo? | Mercer Mayer | Scholastic, StarLine |
| One Fine Day | Nonny Hogrogian | Collier |
| Count and See | Tana Hoban | Collier |
| Pet Show! | Ezra Jack Keats | Collier |
| Pink Pig | Charlotte Hough | Penguin, Puffin |
| Bed Cat | Charlotte Hough | Penguin, Puffin |
| A Is for Annabelle | Tasha Tudor | Rand McNally |
| 1 is One | Tasha Tudor | Rand McNally |
| Curious George Learns the Alphabet | H. A. Rey | Houghton |
| Where's My Baby? | H. A. Rey | Houghton Mifflin |
| The Big Snow | Berta and Elmer Hader | Collier Books |
| Houses from the Sea | Alice E. Goudey | Scribner |
| Song of the Swallows | Leo Politi | Scribner |
| When I Go to the Moon | Claude Lewis | Collier Books |
| Mud Pies and Other Recipes | Marjorie Winslow | Collier Books |

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## Paperback Book List (Cont.)

### Ages 5 - 9 - Stories and Poetry

| TITLE | AUTHOR | PUBLISHER |
|---|---|---|
| Hi, Cat! | Ezra Jack Keats | Collier Books |
| George and Martha | James Marshall | Houghton, Sandpipers |
| Father Fox's Pennyrhymes | Clyde Watson | Scholastic, StarLine |
| Wreath of Christmas Legends | Phyllis McGinley | Collier |
| Altogether, One at a Time | E. L. Konigsburg | Atheneum, Aladdin |
| The Emergency Book | Jeanne Bendick | Rand |
| Stone Soup | Marcia Brown | Scribner |
| The Three Robbers | Tomi Ungerer | Atheneum, Aladdin |
| The Turnip | Janina Domanska | Collier Books |
| Lyle and the Birthday Party | Bernard Waber | Houghton |
| Key to the Treasure | Peggy Parish | Collier Books |
| Billy and Blaze | C. W. Anderson | Collier Books |
| A Pony Called Lightning | Miriam E. Mason | Collier Books |

### Animal Stories

| | | |
|---|---|---|
| A Quail in the Family | William J. Plummer | Fawcett, Crest |
| Misty of Chincoteague | Marguerite Henry | Rand McNally |
| Stormy, Misty's Foal | Marguerite Henry | Rand |
| Sea Star: Orphan of Chincoteague | Marguerite Henry | Rand |
| The Little Fellow | Marguerite Henry | Rand |
| Brighty of the Grand Canyon | Marguerite Henry | Rand |
| King of the Wind | Marguerite Henry | Rand McNally |

### Fantasy - Age 7 up

| | | |
|---|---|---|
| The Mouse and the Motorcycle | Beverly Cleary | S & S, Archway |
| Runaway Ralph | Beverly Cleary | S & S, Archway |
| Ribsy | Beverly Cleary | S & S, Archway |
| A Great Big Ugly Man Came Up and Tied His Horse to Me | Wallace Tripp | Little |
| The Duchess Bakes a Cake | Virginia Kahl | Scribner |
| Franklin Stein | Ellen Raskin | Atheneum, Aladdin |
| Mrs. Frisby and the Rats of Nimh | Robert C. O'Brien | Atheneum, Aladdin |

## Paperback Book List (Cont.)

### Stories for Boys and Girls - Age 8 up

| TITLE | AUTHOR | PUBLISHER |
|---|---|---|
| The Flight of the Doves | Walter Macken | Collier Books |
| The Bears on Hemlock Mountain | Alice Dalgliesh | Scribner |
| A Horse Came Running | Meindert DeJong | Collier Books |
| A Spy in Old Philadelphia | Anne Emery | Rand |
| A Spy in Williamsburg | Isabelle Lawrence | Rand |
| Understood Betsy | Dorothy Canfield | Grosset, Tempo |
| My Dad Lives in a Downtown Hotel | Peggy Mann | Avon, Camelot |
| The Cat Who Went to Heaven | Elizabeth Coatsworth | Collier Books |
| Encyclopedia Brown Takes the Case | Donald J. Sobol | S & S, Archway |
| The Ringling Brothers | Molly Cone | Crowell, Crocodiles |
| Betsy-Tacy | Maud Hart Lovelace | Crowell, Crocodiles |
| Betsy-Tacy and Tib | Maud Hart Lovelace | Crowell, Crocodiles |
| Henry Reed's Big Show | Keith Robertson | Crosset, Tempo |
| Maurice's Room | Paula Fox | Collier Books |
| The Courage of Sarah Noble | Alice Dalgliesh | Scribner |
| Caddie Woodlawn | Carol Ryrie Brink | Collier Books |
| Little House Books | Laura Ingalls Wilder | Harper, Trophy |
| The Secret Language | Ursula Nordstrom | Harper, Trophy |
| Katie John | Mary Calhoun | Harper, Trophy |
| The Wheel on the School | Meindert DeJong | Harper, Trophy |
| Call it Courage | Armstrong Sperry | Collier Books |
| Zeely | Virginia Hamilton | Collier Books |

### Adventure, Mystery and Historical Fiction - Age 10 up

| | | |
|---|---|---|
| The Black Pearl | Scott O'Dell | Houghton |
| The Pushcart War | Jean Merrill | Grosset, Tempo |
| The Headless Cupid | Zilpha Keatley Snyder | Atheneum, Aladdin |
| Kon-Tiki for Young People | Thor Heyerdahl | Rand |
| Escape to Witch Mountain | Alexander Key | S & S, Archway |
| Dreamland Lake | Richard Peck | Avon, Camelot |
| The Bronze Bow | Elizabeth George Speare | Houghton |
| Secret of the Emerald Star | Phyllis A. Whitney | Grosset, Tempo |
| Across Five Aprils | Irene Hunt | Grosset, Tempo |

## Paperback Book List (Cont.)

### Novels for Girls and Boys - Age 12 up

| TITLE | AUTHOR | PUBLISHER |
|---|---|---|
| Where Are You Going, Where Have You Been? | Joyce Carol Oates | Fawcett, Premier |
| Indian Boyhood | Charles A. Eastman | Fawcett, Premier |
| Drifter | Daniel P. Mannix | Fawcett, Crest |
| The Learning Tree | Gordon Parks | Fawcett, Crest |
| Mom, the Wolf Man and Me | Norma Klein | Avon, Camelot |
| A Hero Ain't Nothin' But a Sandwich | Alice Childress | Avon, Camelot |
| Mama's Bank Account | Kathryn Forbes | Scholastic, StarLine |
| Nilda | Nicholasa Mohr | Bantam |
| Farewell to Manzanar | Jeanne Wakatsuki Houston & James D. Houston | Bantam |
| I Know What You Did Last Summer | Lois Duncan | S & S, Archway |
| Diary of a Frantic Kid Sister | Hila Colman | S & S, Archway |
| The Runaway's Diary | Marilyn Harris | S & S, Archway |
| A Gift of Magic | Lois Duncan | S & S, Archway |
| The Planet of Junior Brown | Virginia Hamilton | Collier |
| The Werefox | Elizabeth Coatsworth | Collier |
| A Long Way From Verona | Jane Gardam | Collier |
| Henry 3 | Joseph Krumgold | S & S, Archway |
| The Peppersalt Land | Marilyn Harris | Scholastic, StarLine |
| Julia of the Wolves | Jean Craighead George | Harper, Trophy |
| Freaky Friday | Mary Rodgers | Harper, Trophy |
| Sounder | William H. Armstrong | Harper, Trophy |

### History and Geography - Age 10 up

| | | |
|---|---|---|
| My American Heritage | Ralph Henry & Lucille Pannell | Rand |
| Know the 56 Signers of the Declaration of Independence | George Ross | Rand |
| Voices of 1776 | Richard Wheeler | Fawcett, Premier |
| Decisive Battles of the Civil War | Lt. Col. Joseph E. Mitchell | Fawcett, Premier |
| The Time of the Indian | Kenneth Ulyatt | Penguin, Puffin |

Paperback Book List (Cont.)

| TITLE | AUTHOR | PUBLISHER |
|---|---|---|
| The Other Americans: Minorities in American History | Kathleen Wright | Fawcett |
| Know Your U.S.A. | George Ross | Rand |
| Science and Nature - Ages 5 - 9 | | |
| Secrets in Stones | Rose Wyler & Gerald Ames | Scholastic, StarLine |
| Giant Dinosaurs | Erna Rowe | Scholastic, StarLine |
| Bigger and Smaller | Robert Froman | Crowell, Crocodiles |
| Water for Dinosaurs and You | Roma Gans | Crowell, Crocodiles |
| Fractions Are Parts of Things | J. Richard Dennis | Crowell, Crocodiles |
| Age 10 up | | |
| Whales and Dolphins | Bernard W. Rockett | Penguin, Puffin |
| Shadow in the Clouds | Douglas Botting | Penguin, Explorer |
| Science Experiments You Can Eat | Vicki Cobb | Lippincott |
| UFO's and Other Worlds | Peter Ryan | Penguin, Puffin |
| Social Issues - Age 12 up | | |
| On Being Black | Charles T. Davis & Daniel Walden | Fawcett, Premier |
| Me the Flunkie | Andrew Summers | Fawcett, Premier |
| The Only Earth We Have | Laurence Pringle | Collier Books |
| Sports - Age 9 up | | |
| The Homerun Kings | Clare & Frank Gault | Scholastic, StarLine |
| Incredible Football Feats | Jim Benagh | Grosset, Tempo |
| Ali: Again the Champion! | Rex Lardner | Grosset, Tempo |
| Willie Mays: My Life In and Out of Baseball | Willie Mays | Fawcett, Crest |
| Wilt Chamberlain | Ken Rudeen | Crowell, Crocodiles |
| From Lew Alcinder to Kareem Abdul Jabbar | James Haskins | Lothrop |
| I Never Had it Made | Jackie Robinson | Fawcett, Crest |
| Clyde: The Walt Frazier Story | Walt Frazier & Joe Jares | G & D, Tempo |

Paperback Book List (Cont.)

## Mystery and Science Fiction - Age 9 up

| TITLE | AUTHOR | PUBLISHER |
|---|---|---|
| The Space Ship Under the Apple Tree | Louis Slobodkin | Collier Books |
| The Lotus Caves | John Christopher | Collier Books |
| The House of Dies Drear | Virginia Hamilton | Collier Books |
| I Robot | Isaac Asimov | Fawcett, Crest |
| Colony: Earth | Richard E. Mooney | Fawcett, Crest |
| The White Mountains | John Christopher | Collier Books |
| The City of Gold and Lead | John Christopher | Collier Books |
| The Pool of Fire | John Christopher | Collier Books |

## Just for Fun - All Ages

| | | |
|---|---|---|
| The Portmanteau Book | Thomas Rockwell | Little |
| B. C. "Life is a Seventy-five Cent Paperback." | Johnny Hart | Fawcett |
| What's It All About Charley Brown | Jeffrey Loria | Fawcett |
| Crochet for Beginners | Jessie Rubenstone | Lippincott |
| Arts and Crafts You Can Eat | Vicki Cobb | Lippincott |
| Knitting for Beginners | Jessie Rubenstone | Lippincott |
| Supersuits | Vicki Cobb | Lippincott |
| Making Things | Ann Wiseman | Little |
| Whoppers: Tall Tales and Other Lies | Alvin Schwartz | Lippincott |
| I Saw a Purple Cow | Ann Cole et al | Little |
| Model Satellites and Spacecraft | Frank Ross, Jr. | Lothrop |
| Balsa Wood Craft | Peter Weiss | Lothrop |
| Let's Knot: A Macrame Book | Donna Lightbody | Lothrop |
| Sew Your Own Accessories | J. & E. Sommer | Lothrop |
| Secrets with Ciphers and Codes | Joel Rothman & Ruthven Tremain | Collier Books |
| Professor Egghead's Best Riddles | Rose Wyler | S & S, Archway |

## For All Ages - Old Favorites, Classics and Poetry

| | | |
|---|---|---|
| All Quiet on the Western Front | Erich Maria Remarque | Fawcett, Premier |
| A Little Princess | Francis Hodgson Burnett | Grosset, Tempo |
| The Boy's King Arthur | Sidney Lanier | Scribner |

Paperback Book List (Cont.)

| TITLE | AUTHOR | PUBLISHER |
|---|---|---|
| The Wind in the Willows | Kenneth Grahame | Grosset, Tempo |
| The Lion, the Witch and the Wardrobe | C. S. Lewis | Collier Books |
| Prince Caspian | C. S. Lewis | Collier Books |
| The Voyage of the "Dawn Treader" | C. S. Lewis | Collier Books |
| The Silver Chair | C. S. Lewis | Collier Books |
| The Horse and His Boy | C. S. Lewis | Collier Books |
| The Magician's Nephew | C. S. Lewis | Collier Books |
| The Last Battle | C. S. Lewis | Collier Books |
| The Wizard of Oz | L. Frank Baum | Rand McNally |
| The Land of Oz | L. Frank Baum | Rand McNally |
| Treasure Island | Robert Louis Stevenson | Scribner |
| E. B. White Boxed Set | E. B. White | Harper, Trophy |

## CROSS REFERENCE OF COMPREHENSION SKILLS

The following section provides a cross reference of the comprehension skills included in the three basic reading series used in the Chula Vista City School District.

By referring to the index of skills in the various teachers editions a teacher should be able to locate teaching strategies for reinforcing specific comprehension skills. For example, a teacher may need to organize a skill group for instruction in sequence. This group of children may span a wide range of reading levels. By selecting a story and activities in the basal text appropriate for the lowest reading levels represented, all students should be able to benefit from instruction.

# GINN AND COMPANY
Reading 720
Grade 1

## LEVEL 1

**Supporting Detail**
5, 13, 16, 84, 231, 232, 237, 247, 248

**Sequence**
5, 79, 234, 247

**Relationship**
- Auditory - 85, 86, 87, 90, 91, 93
- Classifying - 43, 45, 49, 55, 64, 65, 76, 83, 138
- Visual - 43, 45, 48, 50, 51, 53, 55, 56, 58, 62, 63, 64, 68, 69, 73, 74, 77, 78, 79, 80, 81, 85, 86, 87, 90, 91, 93, 95-96, 101-102, 239, 242

**Inference**
- Answering riddles - 72, 94, 170, 186

**Main Idea**
248, 249

**Making Judgments**
—

## LEVEL 2

**Supporting Detail**
- Details - 31, 39, 45, 71, 90, 124, 138, 143, 158, 173, 182-183, 185, 186-187, 193, *CE 210, CE 213, **BA 226, BA 229

**Sequence**
8, 17, 31, 43, 55, 72, 97, 121, 123, 135, 169, 193, CE 212, BA 228

**Relationship**
45, 63, 110

**Inference**
- Additional information from pictures - 179
- Predicting outcomes - 19, 46, 123, 172

**Main Idea**
20, 41, 57, 69, 111, 115, 119, 135, 137, 162, 165, 180-181, 190-191, CE 211, BA 227

**Making Judgments**
82

## LEVEL 3

**Supporting Detail**
- Tell who or what - 84, 91, 100 *CE 149, **BA 159
- Specific items on a picture map - 34, 44, 54

**Sequence**
- Of story events - 113, 122, 133, CE 150, BA 160

**Relationship**
- Classifying pictures into categories - 115, 135
- Comparing animal folk tales - 120
- Discussing word meanings - 19
- Human behavior in animal folk tales - 120
- Human behavior of animals - 132

*CE - Criterion Exercise
**BA - Booster Activity

GINN AND COMPANY
Reading 720
Grade 1 (Cont.)

## LEVEL 3 (Cont.)

**Inference**
27, 49, 74

**Main Idea**
As a title - 28, 39, 51, 68, 75, CE 148, BA 158

**Making Judgments**
Story from another point of view - 67

## LEVEL 4

**Supporting Detail**
Tell who, what, or where - 10, 18, 28, 105, 115, *CE 132, **BA 141

**Sequence**
Recognize three events - 56, 66, 78, CE 132-133, BA 142-143

**Relationship**
Classification - 59, 70
Sentences with similar meaning - 37
Using pronouns - 36

**Inference**
99, 101, 102

**Main Idea**
As titles - 93, 104, 115, CE 134, BA 144

**Making Judgments**
Improbabilities - 9, 17, 27

## LEVEL 5

**Supporting Detail**
Tell who, what, where, when - 158, 174, 191, *CE 262, **BA 278

**Sequence**
20, 28, 42, CE 259, BA 272-273

**Relationship**
Classifying - 111, 128, 139
Comparing different versions of an old tale - 205
Making comparisons - 173
Noting similarities in structure of familiar stories - 116
Sentences with similar meanings - 70, 86

**Inference**
Cause & effect - 228, 236
Predicting outcomes - 11, 136, 143, 166, 182, CE 262, BA 279

**Main Idea**
As sentences - 206, 213, 220, CE 263, BA 280-281
As titles - 65, 78, CE 260, BA 275

**Making Judgments**
Distinguishing between reality and fantasy - 108, 126, 137, CE 261, BA 276

*CE - Criterion Exercise
**BA - Booster Activity

GINN AND COMPANY

Reading 720

Grade 2

## LEVEL 6

**Supporting Detail**

- In a story - 10, 18, 25, 40, 171

**Inference**

- Cause & effect - 117, 132, 140, CE 305, BA 324
- Details - 11, 19, 40, CE 303, BA 319
- Mood - 121
- Outcomes - 195, 217, 233, CE 310, BA 328
- Predicting - 61, 139, 162, 216, 253

**Sequence**

- Of story events - 33, 48, *CE 304, **BA 321

**Main Idea**

- Of given stories - 163, 177, 186, CE 308, BA 326
- Of a paragraph - 125, 148, CE 306, BA 324

**Relationship**

- Classification - 27, 72, 79
- Figurative language - 242
- Idiomatic expressions - 39
- Likenesses - 208, 224, 240, CE 309, BA 328
- Story similarities and differences - 85

**Making Judgments**

- Real - fantasy - 254, 268, CE 311, BA 330

## LEVEL 7

**Supporting Detail**

- In a story - 12, 130, *CE 325, **BA 342-343
- On specified story pages - 167, 185, 194

**Inference**

- Cause & effect - 79, 89, 106, CE 323, BA 340
- Details implied in a story - 238, 292, 299, CE 325, BA 347
- Going beyond story context - 44, 105, 112, 174
- Mood - 68, 105
- Outcomes - 113, 121, 139, CE 324, BA 340-341
- Predicting outcomes - 193

**Sequence**

29, 62, 69, CE 322, BA 337-338

**Main Idea**

22, 38, 45, 246, 267, 276, CE 321, CE 328, BA 336, BA 347

**Relationship**

- Classification - 160, 188
- Differences - 213, 238, 246, CE 327, BA 345
- Interpreting idioms - 36
- Metaphors - 76
- Noting similarities - 78

**Making Judgments**

- Fantasy - Reality - 175, 213, 226, CE 327, BA 345
- Finding alternative solutions - 78, 265
- Problem solving - 244

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*CE - Criterion Exercise
**BA - Booster Activity

GINN AND COMPANY

Reading 720

Grade 3

## LEVEL 8

**Supporting Detail**
- Charts - 82, 134
- Building details into simple sentences - 78
- In a story - 79, 105, 121

**Inference**
- Cause & effect - 13, 22, 40, CE 303, BA 322
- Character traits - 245, 253, 275, CE 312, BA 330
- Details - 31, 63, CE 305, BA 322

**Sequence**
- Story events - 12, 22, 31, 56, 111, *CE 304, **BA 322

**Main Idea**
- Of a paragraph - 178, 196, 230, CE 310, BA 328
- Topic sentences - 150, 160, 169, CE 308, BA 326

**Relationship**
- Classification - 24, 113, 124, 216
- Comparisons - 196, 205, 222, CE 310, BA 328
- Interpreting metaphors - 103

**Making Judgments**
- Experiencing problem solving - 131
- Outcomes - 72, 89, 132, CE 306, BA 324

## LEVEL 9

**Supporting Detail**
- In a paragraph - 226, 236, 249, *CE 284, **BA 302

**Inference**
- Cause & effect - 68, 81, 92, CE 278, BA 296
- Character traits - 13, 46, CE 275, BA 294
- Details - 214, 226, 236, CE 284, BA 302
- Outcomes - 12, 24, 34, CE 278, BA 296

**Sequence**
- Signal words - 23, 92, CE 277, BA 296

**Main Idea**

60, 109, 159, 177, 196, CE 280, CE 282, BA 298, BA 302

**Relationship**
- Classification - 14, 82
- Comparisons - 123, 135, CE 280, BA 298
- Metaphors - 11

**Making Judgments**
- Extending story theme - 11, 225
- Opinion statements - 168, 178, 187, CE 283, BA 301
- Problem Solving - 60, 90, 160
- Proposing alternative outcomes - 234
- Proposing alternative solutions - 212

*CE - Criterion Exercise
**BA - Booster Activity

GINN AND COMPANY
Reading 720
Grade 4

## LEVEL 10

**Supporting Detail**
- Suggested in story - 83, 104, *CE 308, **BA 323

**Inference**
- Cause & effect - 180, 240, 282, CE 312, BA 329
- Character, traits & personality - 28, 39, 54, CE 307, BA 321
- Outcomes - 72, 84, 94, CE 308, BA 329

**Sequence**
- In story incidents - 15, 38

**Main Idea**
- In groups of paragraphs - 201, 225, CE 311, BA 327
- Supported with details - 190, 211, CE 309-310, BA 327

**Relationship**
- Classifying products - 85
- Comparisons in analogies - 251, 259, 271, CE 312, BA 329
- Completing word analogies - 70
- Figurative language - 243
- Idioms - 71
- Imagery - 96
- Metaphors - 237-238

**Making Judgments**
- Fact & Opinion - 121, 151, 162, CE 310, BA 325

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*CE - Criterion Exercise
**BA - Booster Activity

GINN AND COMPANY

Reading 720

Grades 4/5

## LEVEL 11

### Supporting Detail

Details of story - 13, 65, *CE 357-358, **BA 381-382

### Inference

Cause & effect - 82, 117, 141, CE 360, BA 376-377

Character, feelings - 27, 37, 50, CE 358-359, BA 375

Outcomes for given situations - 170, 199, 208, CE 361-362, BA 378

### Sequence

Recognizing - 96, 106, 128

### Main Idea

Of story - 222, 270, CE 363, BA 380

Stated as topic sentences - 285, 304, 327, CE 364-365, BA 382

### Relationship

Classifying words - 52, 287

Comparisons, story characters - 159, 178, 188, CE 361, BA 378

Imagery - 53, 319

Similes - 15, 161

### Making Judgments

Fact & Opinion - 234, 242, 252, CE 364, BA 380

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*CE - Criterion Exercise

**BA - Booster Activity

GINN AND COMPANY

Reading 720

Grades 5/6

## LEVEL 12

**Supporting Detail**
- Identifying descriptive words to note detail - 14
- Recognizing - 306, 315, *CE 360, **BA 377

**Inference**
- Cause & effect - 143, 153, CE 358, BA 374
- Character actions - 270, 282, 294, CE 360-361, BA 377
- Details added to story - 88, 115, 124, CE 357, BA 372
- Outcomes based on character - 78, 104, 125, CE 356, BA 372

**Sequence**

166, 181, 190

**Main Idea**
- Identifying - 219, 230, CE 359, BA 375
- Topic sentences - 27, 49, CE 355, BA 370-371

**Relationship**
- Comparisons - 15, 38, 60, CE 355, BA 370
- Metaphors- 41, 146, 183, 234
- Similes - 145

**Making Judgments**
- Fact & opinion - 208, 231, 243, CE 359, BA 375-376
- Resolving a problem - 123

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*CE - Criterion Exercise
**BA - Booster Activity

GINN AND COMPANY

Reading 720

Grade 6+

## LEVEL 13

**Supporting Detail**

- Recognizing - 189, 201, *CE 380, **BA 395
- Skimming for information - 43
- Skimming for details - 54

**Sequence**

- Of story events - 52, 67
- Retelling anecdotes - 140
- Retelling legends - 285

**Relationship**

- Comparisons - 14, 93, 110, CE 378, BA 393

**Inference**

- Character qualities - 286, 297, 308, CE 382, BA 398
- Cause & effect - 26, 41, CE 377, BA 392
- Details - 321, 333, CE 383, BA 398-399
- Outcomes - 81, 125, 142, CE 378-379, BA 393-394

**Main Idea**

- Topic sentences - 166, 177, CE 380, BA 395
- Theme - 217, 229, 259, CE 381, BA 396

**Making Judgments**

- Fact & opinion - 81, 237, 249, CE 381, BA 397

*CE - Criterion Exercise
**BA - Booster Activity

# HOLT
# Basic Reading System
## Grade 1

## LEVEL 1

**Supporting Detail**
Recall - 82, 93, 94, 123, 148-150

**Inference**
Predictions - 146-147

**Sequence**
Ordering events - 82, 123
Of seasons - 116
Puzzles - 82
Visual - 82

**Main Idea**
104

**Relationship**
Classification - 129
Comparisons - 44, 46, 47, 115-116
Differences - 23, 144

**Making Judgments**
Conclusions - 142
Sense & nonsense - 138

## LEVEL 2

**Supporting Detail**
61

**Inference**

**Sequence**

**Main Idea**
- -

**Relationship**
89

**Making Judgments**

## LEVEL 3

**Supporting Detail**
Recall, practice in - 49-50, 61, 66, 100

**Inference**
Cause & effect - 96

**Sequence**
81
109
Ordering - 61, 63, 80, 81
Puzzles - 63
Recall - 97

**Main Idea**
68

**Relationship**
Multiple meanings - 97

**Making Judgments**
17, 23, 33, 38, 53

## LEVEL 4

**Supporting Detail**
20, 21, 23, 92

**Inference**
53, 80, 93

**Sequence**
Directions
  following oral - 46, 56
  following written - 44-45, 76, 88
Logical - 74, 105
Ordering pictures - 72, 103
Puzzles - 74, 105
Recall - 62, 103

**Main Idea**

**Relationship**
Classification - 29, 30, 90
Shapes, classification of- 29, 57

**Making Judgments**
39
Fantasy, distinguished from reality - 10

HOLT
Basic Reading System
Grade 1 (Cont.)

## LEVEL 5

Supporting Detail
31
Recall - 84

Inference
22

Sequence
Directions, following written - 70, 71

Main Idea
Identifying - 39, 55

Relationship
36

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CHULA VISTA CITY SCHOOL DISTRICT

# DIAGNOSIS AND PRESCRIPTION FOR READING AND MATHEMATICS

| | |
|---|---|
| *Part I* | *Reading Diagnosis* |
| *Part II* | *Reading Prescription* |
| ➡ *Part III* | *Mathematics Diagnosis* |
| *Part IV* | *Mathematics Prescription* |

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TM 009 981 (3 OF 4)

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CHULA VISTA CITY SCHOOL DISTRICT

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June 1977

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# CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM

School _____
Person Completing Form _____
Date _____

## ORDER FORM

(When ordering, use this form; return to Publications.
One person should coordinate the school order.)

| | |
|---|---|
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| _____A161(126A,B,C) | Suggestions for Diagnostic Testing |

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| _____A161(52A,B,C) | Kindergarten Inventory |
| _____A161(53A,B,C) | Kindergarten Answer Key |
| _____A161(54) | Kindergarten Class Record of Items |

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## CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM

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# OVERVIEW OF THE CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM

## Introduction

The Rosebank Title IV Part C Project, Individual Diagnosis and Prescription for a Total School, is a monitoring/management system in mathematics and reading for elementary school teachers to use in their classrooms. The Project was created by District Education Center staff members and implemented by Project personnel at two schools, Rosebank Elementary (1974-1977) and Valley Vista Elementary (1976-1977).

The monitoring/management system is composed of four parts:

I. Reading Diagnosis
II. Reading Prescription
III. Mathematics Diagnosis
IV. Mathematics Prescription

This is Part III of the Project, Mathematics Diagnosis. It is composed of a series of inventories (tests), record forms, and suggestions for their use in diagnosing pupil needs and monitoring pupil growth in mathematics. Material contained in this part is also available in a separate book, Diagnosis and Prescription for Mathematics, Spanish Edition.

## Inventories (Tests)

The first step in using the monitoring/management system is to diagnose the pupils by administering the inventories. These consist of two types, Computation and Concepts and Applications. There are seven different levels (Grades 1-7) for each type. There is also a Kindergarten Inventory which measures development in both areas.

The computation inventories primarily measure pupil ability to compute using whole numbers, fractions, decimals and integers. Concepts involving relations and percents are also included. The concepts and applications inventories measure pupil ability to apply computational skills as well as knowledge of all other mathematical strands; i.e., geometry, measurement, etc.

Each of the computation inventories has 25 items except for Level I which has 20. Each of the concepts and applications inventories and the kindergarten inventory has 20 items. These fifteen inventories are easily administered and are available from Publications for Chula Vista City School District teachers. (See the Order Form immediately preceding this section.)

## Guidelines for Using the Inventories

The inventories would normally be administered for the first time at the beginning of each school year although the monitoring/management system can be initiated at any time. The purpose of the first testing is to find the instructional (teaching) level of all pupils in both computation and concepts and applications. The instructional level is the level on which a pupil is working; e.g., if a pupil passes the Level II Computation Inventory but not the Level III, he is working at instructional level III in computation. Pupils, then, are first placed in an instructional level in both areas.

Once in appropriate instructional levels, pupils are grouped according to like needs for specific instruction. Pupils who missed the same item(s) and therefore need the same skill(s) are clustered together. (Note that pupils now are clustered who have the same needs rather than the same number of items correct.) It is obvious that the composition of these groups will change frequently since pupils learn different amounts at different rates.

After the initial testing, all pupils should be rediagnosed at periodic intervals. Project teachers administer the inventories in September, January and immediately after spring vacation. Testing at the end of the year is optional since most pupils need to be tested at the beginning of the next year. However, administering tests at this time provides an excellent indication of pupil growth for the year. Some teachers give the inventories at the beginning of the school year and just before each parent reporting period. Others give them at the beginning of the school year and in January. Since the primary purpose of the inventories is to diagnose, whatever testing schedule is worked out should be based on using the results for diagnosis.

Testing should begin with inventories one or two levels lower than the grade children are in and continue with higher or lower levels until instructional levels for each pupil are found in both computation and concepts and applications. New pupils should be tested when they enter, if possible, or at the next testing period. Most teachers administer their own tests; however other personnel can be trained to give them, particularly to individuals or small groups.

## Record Forms: Class (Group), Individual

### Class (Group) Record Forms

There are three different types of class or group record forms.

1. Class Record of Growth. There are two Class Record of Growth forms, one for use with the 20-item inventories and the other for use with the 25-item

inventories. Each provides space for pupil names down the left side. Note that the Class Record of Growth forms in this book show space for 30 pupil names; however, the actual forms are printed on heavy tag and provide space for 64 names. The latter, extended forms are the ones teachers receive when they order.

After the tests have been administered, they are scored. The appropriate Class Records of Growth should be used to record the number of items pupils successfully complete on each inventory. This is done by drawing a horizontal line corresponding to the correct number of items indicated at the top of the form. (See the completed samples on pages 94, 96 and 98.) The same records are used for subsequent test results for those pupils listed on them. In this way test results for the various periods can be easily compared. Some teachers use color coding for their records. Many Project teachers use red, blue, orange and green in the sequence given for both reading and mathematics. Color coding is, of course, optional.

2. Class Record of Items. There is a different Class Record of Items for each pupil inventory. Each record is a grid which lists the items on that inventory across the top of the form and provides spaces for pupil names down the left side. Recording each pupil's inventory results on this form provides a complete class (or group) analysis of that inventory. (See the completed samples on pages 95, 97 and 99.) As with the Class Records of Growth, the actual Class Records of Items also provide space for 64 pupils.

3. Class List of Mathematics Inventories - Instructional Levels. There are two forms of the Class List of Mathematics Inventories - Instructional Levels. Teachers wishing to use this list use whichever form they wish. Both forms list the various levels of the computation and concepts and applications inventories across the top and provide spaces for pupil names down the left side. The forms are used to record the instructional levels for pupils in both inventories. When completed, the Class List shows the range of instructional levels within a class. (See the sample completed Class List on page 100.) It is very helpful for use when pulling out groups of students for organizational and instructional purposes. Teachers also use it to compare the computation and concepts and applications levels of the same student; i.e.,John G. is working at Level IV

## Class (Group) Record Forms (cont.)

in one area and at Level III in the other. Further, it is an excellent reference when ordering copies of inventories since it shows the type, level and quantity required.

## Individual Record Forms

There are two different types of individual record forms, one for use with the pupil inventories and the other for use with the Kennedy Kit.

1. Individual Cumulative Mathematics Record. There are four forms of the Individual Cumulative Mathematics Record. All are intended for use with the appropriate inventories. Each form lists the inventory items across the top with several lines for comments on the left. Each type is color-coded and printed on 8½" x 11" tag.
    A. Computation, Levels I - VI (blue; see pp. 85-86)
    B. Concepts and Applications, Levels K - VII (white; see pp. 87-88)
    C. Computation, Levels I - III; Concepts and Applications, Levels K - III (gold; see pp. 89-90)
    D. Computation Levels, IV - VI; Concepts and Applications, Levels IV - VII (green; see pp. 91-92)

    By using forms for both computation and concepts and applications, teachers have complete pupil profiles for mathematics from Kindergarten through Grade 6. It is, therefore, important that a school staff discuss the merits of the various forms and make a common decision as to which form(s) will be kept, when and how often information will be recorded and how the forms will be passed on to future teachers. Some teachers record the results of each inventory as soon as they are available; others record only once at the end of the school year. Still others prefer to record twice, once at the beginning and once at the end of the school year. In some cases, this necessitates the making of new records (e.g., the spaces for a given inventory are already filled).

2. Kennedy Kit Student Profile Card. There are nine forms of these cards which accompany the Kennedy Kit. All are 5" x 8" and all list the 146 skills in the Kit. See the section on The Kennedy Kit, pages 115 - 120, for specific descriptions of these cards.

    These forms indicate pupil success in computation only. The cards are cumulative and should accompany the child from Grade 1 through Grade 6. However, some teachers prefer to start with a new card for each pupil each year. Again, this should be a staff decision wherever possible.

## Using Records with Pupils and Parents

Any of the individual record forms are very helpful in communicating understanding and progress in mathematics with pupils and parents. They are especially useful for pointing out strengths and areas of need. Inventory results have been shared with pupils and parents during pupil/teacher and parent/teacher conferences at Project schools with overwhelming success.

## SUGGESTIONS FOR DIAGNOSTIC TESTING

### Guidelines for Testing Procedures

1. Plan the testing schedule. Select times and days that will provide the best test situation for students.
2. Plan to deviate from the regular mathematics program while giving the diagnostic tests. The time used in testing will save teacher and student time overall; new information about students is obtained which makes it possible to meet their needs more effectively.
3. Determine which level inventory should be given first. For example, if in the initial diagnosis, begin with an inventory one or two levels below grade level. After the initial diagnosis, begin with the lowest instructional level of any student in the class.
4. Establish test groups in advance. For example, 5 students need Level II Computation Inventory, 12 students need Level III Concepts and Applications Inventory, etc.
5. Obtain inventories ahead of time and write students' names on them to facilitate their distribution at testing time.
6. Before testing, review mathematics skills. For example, algorithms, vocabulary, simplifying fractions, etc.
7. Discuss good test-taking techniques with students. The mathematics inventories are power, not speed tests. Students should be encouraged to complete as many items as possible and especially, to check their work.
8. Make the test sessions as pleasant as possible for everyone. The teacher's attitude about testing carries over to the students. Promote the thinking that this is an opportunity to find out how much pupils know or how much they have learned since the last test period.
9. Plan quiet activities ("fun" worksheets, library books, etc.) for anyone not taking tests and for those students who finish before everyone else.
10. During the diagnostic testing period, do just enough recording to determine which students need to take additional higher or lower level inventories.
11. Share test results with students so they will know what they need to work on and, hopefully, set goals for themselves.
12. Discuss and analyze test items with pupils. However, in no case should an inventory be used as a worksheet nor be sent home with a pupil or parent.

The following sample Testing Schedules (one for the first diagnosis and the other for additional diagnoses) may be used as guidelines.

## Sample Testing Schedule, Initial Diagnosis

*This is a suggested schedule to follow for the first diagnostic test period.*

FIRST SESSION *(First Day)*

Teacher administers lowest level concepts and applications inventory to entire class (one or two levels below the grade level). Levels K and I - III are read aloud by teacher.

SECOND SESSION *(First Day)*

Teacher monitors this session in which lowest level computation inventory appropriate for grade level is given to entire class (one or two levels below grade level).

*Score inventories given and do just enough recording to find who needs a higher or lower level inventory for next session. Detailed record-keeping can be done after all diagnostic testing is completed.*

THIRD SESSION *(Second Day)*

Teacher administers next higher level concepts and applications inventory to pupils who passed inventory given in first session. Pupils not involved with teacher should be given assignments that can be done independently.

FOURTH SESSION *(Second Day)*

Teacher monitors this session in which pupils who passed lowest level computation inventory work independently on next higher computation inventory and pupils who did not pass lowest level are given next lower level. Pupils not involved with testing should be given independent activities.

FIFTH SESSION *(Third Day)*

Teacher administers next lower level concepts and applications inventory to anyone needing it from first session (any student who scored, for example, less than 10 correct).

*Score tests given and do just enough recording to find who needs a higher or lower level inventory for next session. Continue testing and recording until placement (instructional) level of every student is found in both areas, computation and concepts and applications. Record each student's instructional level on one of the Class List of Mathematics Inventories - Instructional Levels.*

## Sample Testing Schedule, Second, Third, Fourth Diagnosis

*This is a suggested schedule to follow after students have been placed based on the first diagnosis. Teachers should refer to the Class List of Mathematics Inventories to place their students in the correct test groups. New enrollees should be placed with the group taking the lowest level inventories.*

### FIRST SESSION *(First Day)*

| *(Teacher directed)* | *(Students working independently)* |
|---|---|
| Teacher administers lowest level any student needs of concepts and applications inventories. (Level I, II, etc.) | Students not taking lowest level concepts and applications inventory should take appropriate computation inventory. Inventories are distributed and administered so each pupil can work on level required. Each pupil should be supplied ahead of time with something to do if he/she finishes before everyone else ("fun" worksheets, library books, etc.). |

*Score inventories given and do just enough recording to find who needs a higher or lower level inventory for the next session. Detailed record-keeping can be done after all diagnostic testing is completed.*

### SECOND SESSION *(Second Day)*

| *(Teacher directed)* | *(Students working independently)* |
|---|---|
| Teacher administers next higher level concepts and applications inventory to students who need it, including students who passed lowest level inventory in first session. | Next higher computation inventories should be given to students who passed a lower level computation inventory in first session. |

*Score tests given and do just enough recording to find who needs a higher or lower level inventory for next session. Continue testing and recording until placement (instructional) level of every student is found in both areas, computation and concepts and applications.*

# CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
# MATHEMATICS INVENTORY - KINDERGARTEN
# FORM A

## Procedure for Administering Inventory

*Be sure each pupil's name, grade and test date are recorded at the top of the first page. The inventory should be administered individually or in small groups, especially if it is given at the beginning of the year. It can be administered to larger groups later. There is no time limit. Teacher's judgment should determine the length of time children need. Teachers should use their judgment in repeating, expanding or deleting the directions below. It may be helpful to have pupils practice following directions before taking the inventory, for example, making X's on numerals in boxes. It is also helpful to have children seated so they can see only their own work. Since it is difficult for some kindergarten children to take a paper and pencil inventory, many teachers give the inventory individually allowing the pupil to give oral responses. Some teachers also have reproduced each item on laminated cards for pupils to use. Manipulative materials should be available for all pupils to use if needed.*

## Directions

*After pupils have inventories say:* Listen carefully while I tell you what to do with the pictures on these pages.

*Sample:*

Put your finger on the picture of the shovel in the box at the top of the page. *(Check to see pupils do this. Explain that they will be putting their finger on pictures just long enough to show which row they are on. They do not have to leave their finger there.)* Look at the circles. Is the first one large or small? *(Pause)* It is small. What is the next one, large or small? It is large. The next is small and the next is large. Do you see the pattern the circles make? *(Pause)* The pattern is: small, large, small, large. What kind of a circle should come next, large or small? *(Pause)* Small. Make a small circle now on the line next to the last large circle. *(Either mark your page correctly and show it to pupils or reproduce the sample on the board and draw the small circle on it. Check to see pupils have made the small circle correctly. Give any help needed.)*

Now look at the row again. The pattern is: small circle, large circle, small circle, large circle, small circle. Think to yourself what comes next. *(Pause)* A large circle comes next. Make a large circle now right next to your small one. *(Either mark your paper correctly or draw the large circle on the board for pupils to see. Check to see they have marked their papers correctly. Give any help needed.)*

You have been answering out loud and that was fine. But from here on you are to show your answer by writing it on the paper. You do not answer out loud.

Directions (Cont.)

Now I am going to tell you what to do with each row. *(Read each item number and each item as it is stated. Allow children as much time as they need to complete the items within reasonable limitations.)*

1. Now move down to the next row where you see a 1 and a monkey. Put your finger on the monkey. *(Pause. Check to see that pupils are on the right row. Continue checking throughout the inventory to see that pupils find the correct item.)* Look at the squares and circles in this row. Find the pattern they make. *(Pause)* Draw the shape that comes next. *(Pause)* Now draw the shape that comes next. *(Pause)*

2. Now move down to the next row where you see a 2 and a zebra. Put your finger on the zebra. *(Pause)* Look at the cowboy hats and boots. You are to see if there are the same number of hats as boots. Draw one line from each hat to a different boot to see if the sets match. Be sure to draw one line from each hat to a boot. *(Pause)*

3. Move down to the next row where you see a 3 and a giraffe. Put your finger on the giraffe. *(Pause)* Let's look at each set of stars. Look at the first set. *(Pause)* Look at the next set. *(Pause)* Look at the last set. *(Pause)* Now look at them again to find which set has the most stars in it. You are to put an X on that set. This is how to make an X. *(Demonstrate on board or paper. Have children make an X in the air.)* Now put an X on the set with the most stars in it. *(Pause)*

4. Now move down to the last row where you see a 4 and an elephant. Put your finger on the elephant. *(Pause)* Look at the set of horses. Count the horses. *(Pause)* Now look at the boxes with the numerals in them. Put an X on the numeral that tells how many horses there are.

5. Now turn to the next page and fold this page back like this *(Demonstrate)* Look at the 5 and the clown at the top of the page. Put your finger on the clown. *(Pause)* Beside the clown are a dime, a penny and a nickel. Put an X on the coin that is worth the most. *(Pause)*

6. Move across the page where you see a 6 and a cupcake. Put your finger on the cupcake. *(Pause)* Let's look at each set of ladybugs. *(Pause)* Look at the first set. *(Pause)* Look at the next set. *(Pause)* Look at the last set. *(Pause)* Put an X on the set of ladybugs that shows the number that comes just before five. *(Pause)*

7. Now move down to the next row where you see a 7 and a roller skate. Put your finger on the roller skate. *(Pause)* Let's look at each set of ice cream cones. *(Pause)* Look at the first set. *(Pause)* Look at the next set. *(Pause)* Look at the last set. *(Pause)* Put an X on the set that shows the number that comes just after two. *(Pause)*

Directions (Cont.)

8. Now move across in this same row to where you see an 8 and a star. Put your finger on the star. *(Pause)* Look at the dots in this box. Count them. *(Pause)* Now look at the boxes below with the numerals in them. Put an X on the numeral that tells how many dots are in this box. *(Pause)*

9. Move down to the next row where you see a 9 and a block. Put your finger on the block. *(Pause)* Look at the numerals: 0, 1, 2. I am going to ask a question. You show your answer by putting an X on the correct numeral. "For his birthday Jimmy got one large book and one small book. Put an X on the numeral that tells how many books he got in all." *(Pause)*

10. Now move across in this same row where you see a 10 and a balloon. Put your finger on the balloon. *(Pause)* Look at these numerals: 1, 2, 3. I am going to ask another question. Show your answer by putting an X on the correct numeral. "Two girls were playing. Another girl comes to play with them. Put an X on the numeral that tells how many girls are playing now." *(Pause)*

11. Move down to the next row where you see an 11 and a bear. Put your finger on the bear. *(Pause)* Let's look at the pictures. *(Pause)* Look at the first picture. *(Pause)* Look at the next one. *(Pause)* Now, look at the next one. *(Pause)* Look at the last one. *(Pause)* Put an X on the picture in which you see a triangle. *(Pause)*

12. Move down to the next row where you see a 12 and a bucket. Put your finger on the bucket. *(Pause)* Look at the numerals in each of these boxes. *(Pause)* Put an X on the numeral that means the greatest number of things. *(Pause)*

13. Now move down to the last row on this page where you see a 13 and a starfish. Put your finger on the starfish. *(Pause)* Look at the numerals in each of these boxes. *(Pause)* Put an X on the numeral that means the least number of things. *(Pause)*

14. Turn to the last page and fold this page back like you did before. *(Demonstrate)* Look at the 14 and the bicycle at the top of the page. Put your finger on the bicycle. *(Pause)* Look at the first box. *(Pause)* Look at the next box. *(Pause)* Now, look at the last box. *(Pause)* Only one box has the numerals in counting order--the way you count. Put an X on that box. *(Pause)*

15. Now move down to the next row where you see a 15 and a wagon. Put your finger on the wagon. *(Pause)* Look at the first box. *(Pause)* Now, look at the next box. *(Pause)* Only one box has the numerals in counting order--the way you count. Put an X on that box. *(Pause)*

Directions (cont.)

16. Now move down to the next row where you see a 16 and an alligator. Put your finger on it (carefully, now...you don't want to get bitten!). *(Pause for laughter, hopefully.)* Look at the 3 snakes. The alligator scared 1 away. Put an X on the numeral that tells how many were left after he scared one away. *(Pause)*

17. Move down to the next row where you see a 17 and a boy. Put your finger on him. You don't have to be so careful this time...he doesn't want to eat you. He wants to eat the cupcakes. In fact, he eats 4 of them. Put an X on the numeral that tells how many are left after he eats 4 of them. *(Pause)*

18. Move down to the next row where you see an 18 and a gift. Put your finger on the gift. *(Pause)* Look at the numerals in the box: 6, line, 8. A numeral is missing. See if you can find the missing numeral in one of the boxes at the right. *(Pause)* Put an X on it. *(Pause)*

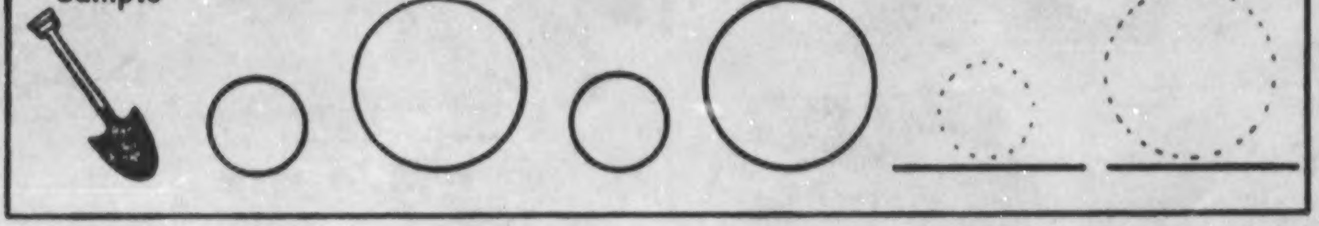
19. Now move down to the next row where you see a 19 and a scooter. Put your finger on the scooter. *(Pause)*. Look at the numerals in the box: 3, 4, line. A numeral is missing again. See if you can find it in one of the boxes at the right. *(Pause)* Put an X on it. *(Pause)*

20. Move down to the last row where you see a 20 and a ball. Put your finger on the ball. *(Pause)* Look at the numerals in the box: line, 2, 3. Again there is a numeral missing. See if you can find it in one of the boxes at the right. *(Pause)* Put an X on it. *(Pause)*

CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
MATHEMATICS INVENTORY - KINDERGARTEN FORM A

DATE________________ NAME________________

Sample



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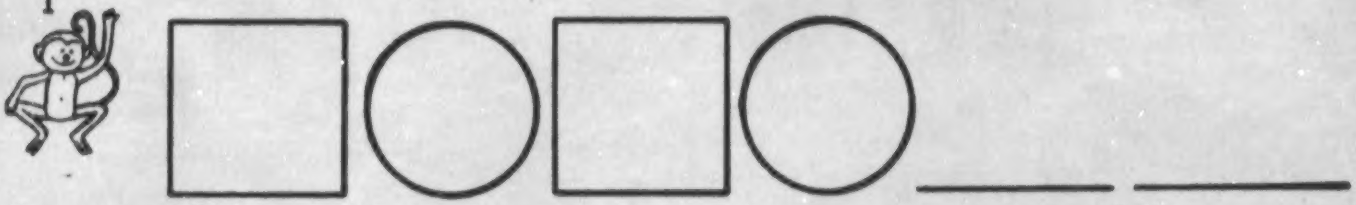

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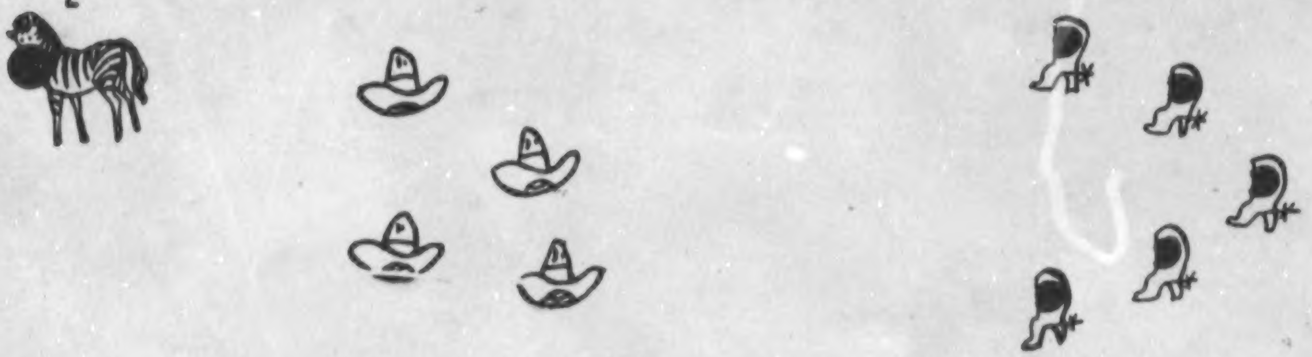

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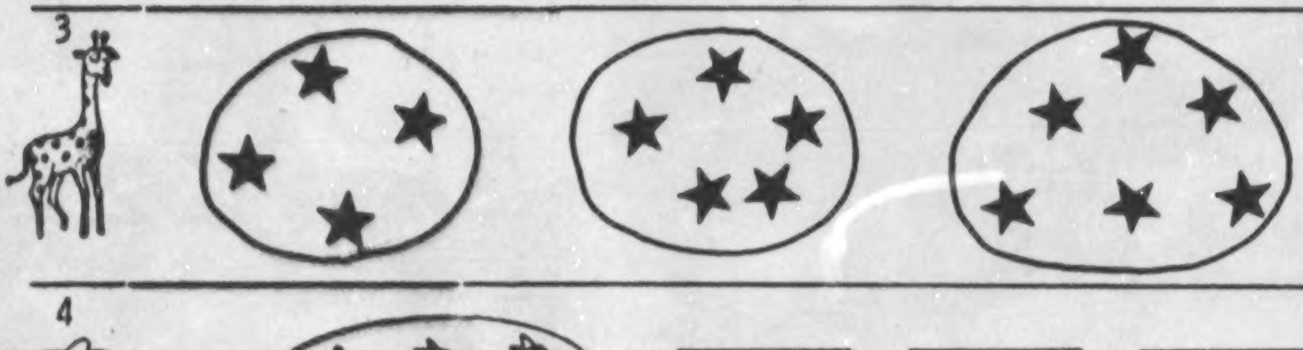

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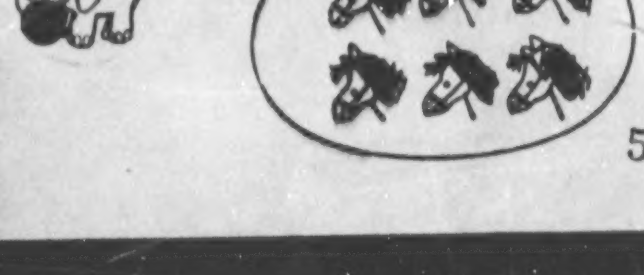
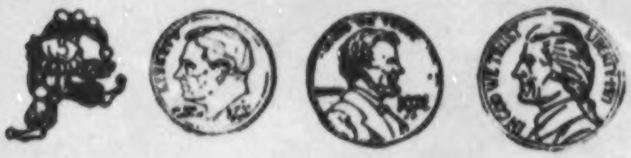


5 6 7

NAME____________________________

5



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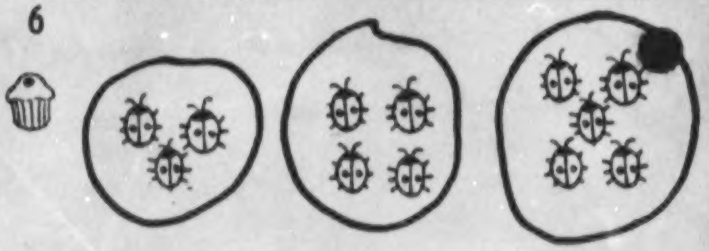

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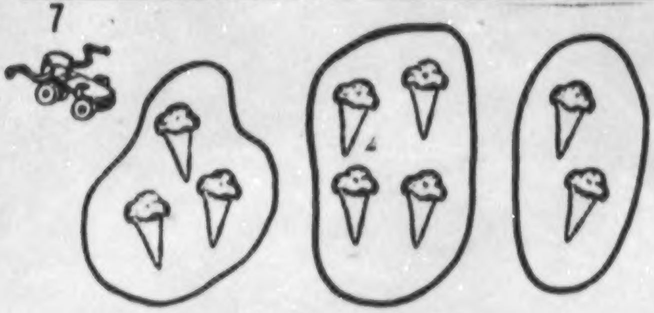

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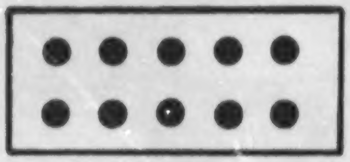


| | | |
|---|---|---|
| 8 | 9 | 10 |

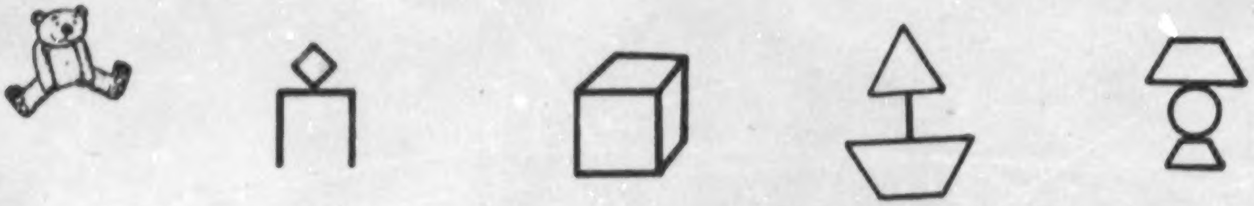
9

| | | |
|---|---|---|
| 0 | 1 | 2 |

10

| | | |
|---|---|---|
| 1 | 2 | 3 |

11



12

| | | | |
|---|---|---|---|
| 20 | 12 | 21 | 102 |

13

| | | | |
|---|---|---|---|
| 18 | 68 | 81 | 79 |

NAME ____________________

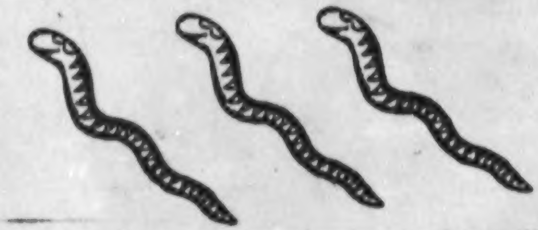
14

1,3,2,4 | 1,2,3,4 | 1,2,4,3

15

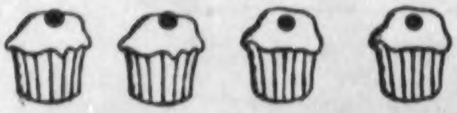
15 17 16 | 11 12 13

16



1 | 2 | 3

17



0 | 2 | 4

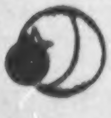
18

6 ___ 8 | 5 | 7 | 9

19

3 4 ___ | 5 | 2 | 6

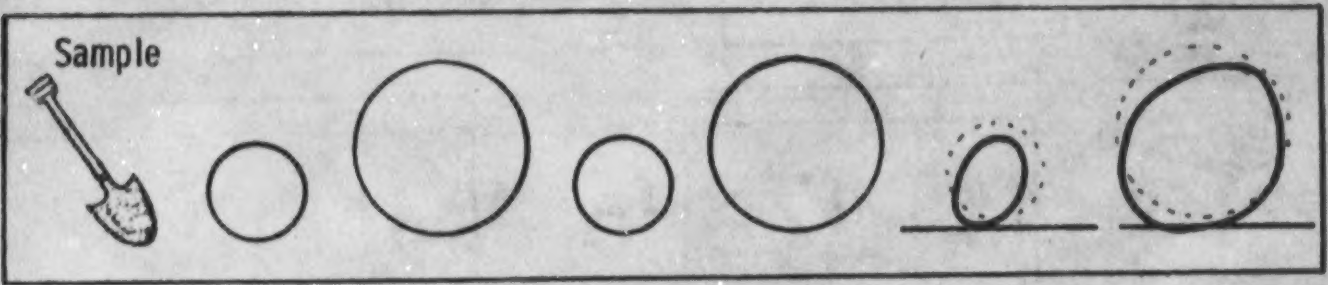
20



___ 2 3 | 0 | 1 | 4

CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
MATHEMATICS INVENTORY - KINDERGARTEN FORM A

DATE____________________ NAME Answer Key



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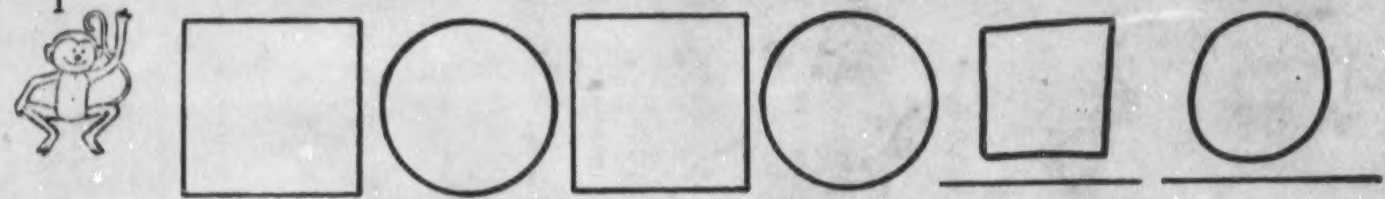

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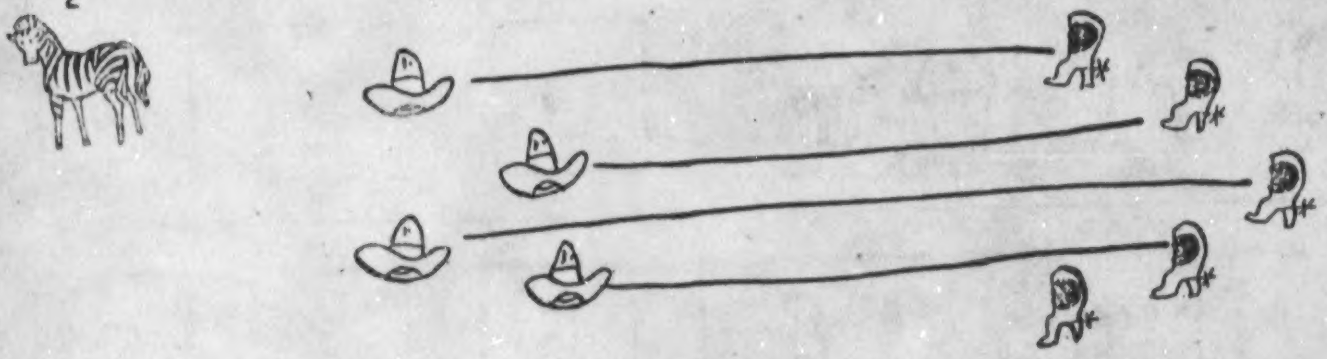

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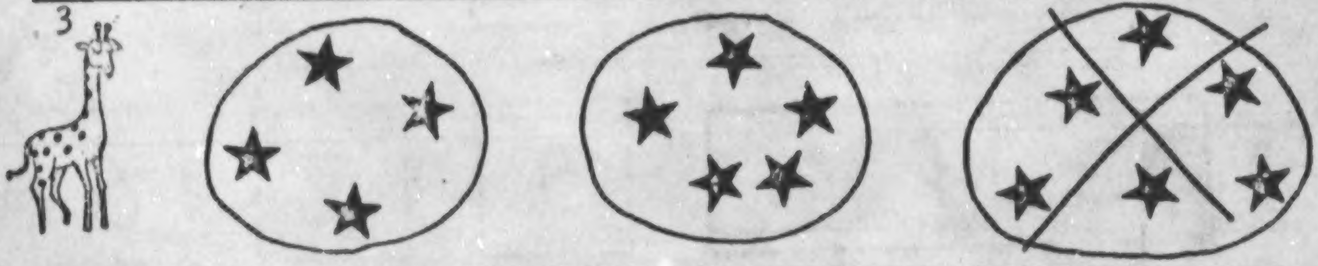

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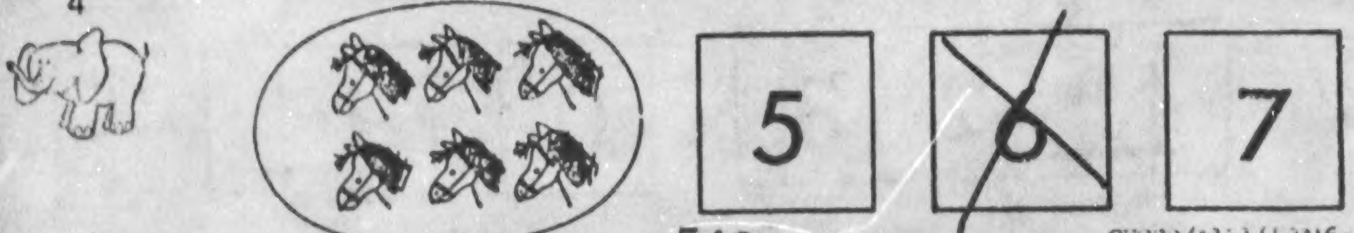

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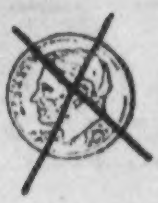
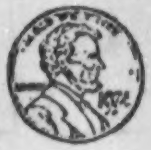
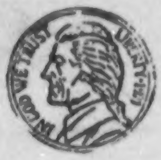
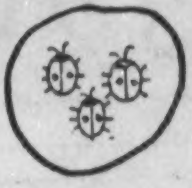
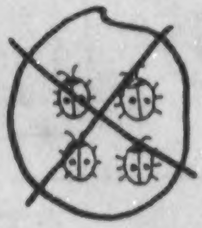


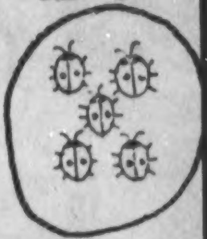




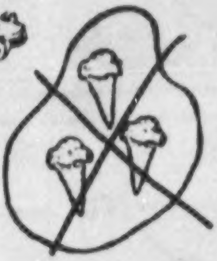
6 Name *Answer Key*

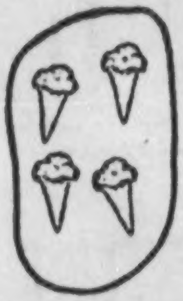


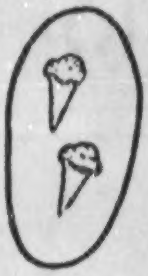




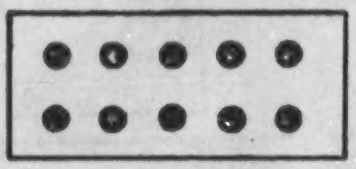
7







8



8 9 ~~10~~

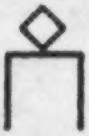
9

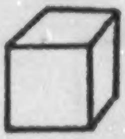
0 1 ~~2~~

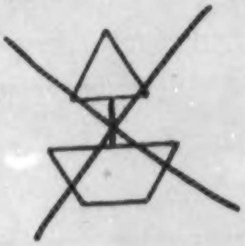
10

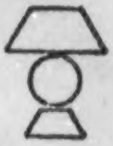
1 2 ~~3~~

11









12

20 12 21 ~~102~~

13

~~18~~ 68 81 79

NAME Answer Key

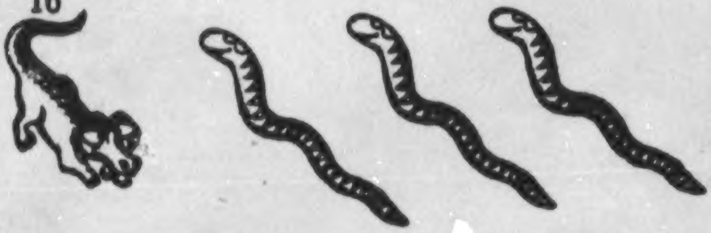
14

1,3,2,4 | ~~1,2,3,4~~ | 1,2,4,3

15

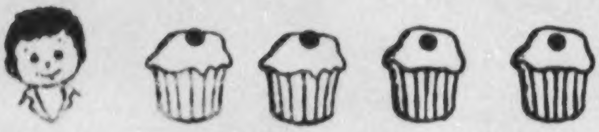
15 17 16 | 11 ~~12~~ 13

16



1 | ~~2~~ | 3

17



~~0~~ | 2 | 4

18

6 ___ 8 | 5 | ~~7~~ | 9

19

3 4 ___ | ~~5~~ | 2 | 6

20

___ 2 3 | 0 | ~~1~~ | 4

MATHEMATICS INVENTORY
KINDERGARTEN FORM A

# CLASS RECORD OF ITEMS

Teacher______________

Grade______________

Color Key:
1st____ 2nd____
3rd____ 4th____

| | | | | | | | | | Problem Solving | | | | | | | Problem Solving | | Identify Numeral | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ident. & complete pattern | Match set members | Ident. set with most | Match set of 6 to numeral | Ident. coin worth most (dime) | Ident. set 1 less than 5 | Ident. set 1 more than 2 | Match set to numeral (10) | Add | Add | Ident. picture with △ | Ident. greatest numeral | Ident. least numeral | Ident. counting order (1-4) | Ident. counting order (11-13) | Subt. | Subt. | Between | After | Before |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 1. | | | | | | | | | | | | | | | | | | | | |
| 2. | | | | | | | | | | | | | | | | | | | | |
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| 30. | | | | | | | | | | | | | | | | | | | | |

CVCSD/A161(54)6-77

# CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
## COMPUTATION INVENTORIES, LEVELS I-VII
## DIRECTIONS AND SUGGESTIONS FOR USE

The Computation Inventories, Levels I-VII, measure skills developed in the current State textbooks, California Framework and standardized tests. These inventories therefore measure Kennedy Kit skills as well as skills not covered in it. (The Kennedy Kit is a kit available in the District which measures computation skills developed in Grades 1-6. It is described on pages 101-124.) Each inventory has an answer key which gives Kennedy Kit card reference numbers for each item on the inventory that is also in the Kit. Items not in the Kit are starred; the new State textbook page references for these items are found in Mathematics Prescription, Book IV.

The inventories are pupil diagnostic instruments; they can also be used to show achievement. Level I Inventory has 20 items; Levels II-VII each have 25 items. The inventories are power, not speed tests. There is no time limit. Research shows that the best way to improve math scores is to have pupils check their work. Therefore, pupils should be instructed to work accurately and CHECK EACH ITEM. Teachers should have plenty of scratch paper and extra pencils readily available. Kindergarten and primary grade children may wish to use manipulative materials as they work. This is acceptable but should be noted.

Because each test measures computation skills developed at that grade level, it is wise at the beginning of the school year to administer tests at least one, and sometimes even two, levels lower than the grade children are in. For example, at the beginning of Grade 3, Level II could be administered to all third graders (with the exception of any for whom it is known that it would be too difficult or too easy), followed by Level I for any not passing Level II. Third graders who successfully pass Level II should be given Level III to find if any have already mastered some third grade concepts. "Passing" has been interpreted by the Title IV-C teachers to mean successfully completing at least 80% of the items on a test. Other teachers interpret passing to mean successfully completing at least 70-75% of the items since pupils often miss several examples due to carelessness rather than lack of knowledge. In any case, it is important that pupils passing a level should still work on and be checked again on any items they missed. Further, teacher judgment should prevail, e.g., if it is felt that a pupil did not do as well as he should have on a test he should be given the opportunity to take it again after a brief period of review.

Testing should continue until each child's instructional level is determined; this is the level at which he does not successfully answer 80% (or 70-75%) of the items. Testing should continue throughout the year to diagnose and measure each pupil's progress in computation. For additional information, see the section, Suggestions for Diagnostic Testing, on pages 6 to 8 in this book.

# CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
## COMPUTATION INVENTORY - LEVEL I
## FORM A

DATE____________________ NAME____________________

| | | | | |
|---|---|---|---|---|
| 2<br>+ 4 | 7<br>+ 3 | 9<br>+ 2 | 8<br>+ 4 | 5<br>1<br>+ 2 |

| | | |
|---|---|---|
| 4 + 3 = ☐ | 16 + 3 = ☐ | 6 + ☐ = 7 |

| | | | | |
|---|---|---|---|---|
| 37<br>+ 2 | 40<br>+ 10 | 52<br>+ 33 | 8<br>- 2 | 10<br>- 4 |

| | | |
|---|---|---|
| 9 - 5 = ☐ | 15 - 5 = ☐ | 8 - ☐ = 4 |

| | | | |
|---|---|---|---|
| 11<br>- 7 | 12<br>- 3 | 35<br>- 2 | 86<br>- 15 |

CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
COMPUTATION INVENTORY - LEVEL I
FORM A

ATE__________________ NAME Answer Key

| | | | | |
|---|---|---|---|---|
| 1 ①<br>2<br>+ 4<br>6 | 2 ②<br>7<br>+ 3<br>10 | 3 ③<br>9<br>+ 2<br>11 | 4 ④<br>8<br>+ 4<br>12 | 6 ⑤<br>5<br>1<br>+ 2<br>8 |

| | | |
|---|---|---|
| 111 ⑥<br>4 + 3 = $\boxed{7}$ | * ⑦<br>16 + 3 = $\boxed{19}$ | 112 ⑧<br>6 + $\boxed{1}$ = 7 |

| | | | | |
|---|---|---|---|---|
| 7 ⑨<br>37<br>+ 2<br>39 | 8 ⑩<br>40<br>+ 10<br>50 | * ⑪<br>52<br>+ 33<br>85 | 29 ⑫<br>8<br>- 2<br>6 | 30 ⑬<br>10<br>- 4<br>6 |

| | | |
|---|---|---|
| 118 ⑭<br>9 - 5 = $\boxed{4}$ | * ⑮<br>15 - 5 = $\boxed{10}$ | 119 ⑯<br>8 - $\boxed{4}$ = 4 |

| | | | |
|---|---|---|---|
| 31 ⑰<br>11<br>- 7<br>4 | 32 ⑱<br>12<br>- 3<br>9 | 34 ⑲<br>35<br>- 2<br>33 | 35 ⑳<br>86<br>- 15<br>71 |

Script numerals in each box refer to Kennedy Kit Cards CVCSD/A161(57)6-77

*No Kennedy Kit Card references. See section on Textbook Page References for these items.

**MATHEMATICS INVENTORY**
**LEVEL I, COMPUTATION**
**FORM A**

# CLASS RECORD OF ITEMS

*Circled numerals refer to Kennedy Kit Card*

**No Kennedy Kit Card reference here*

Teacher____________________

Grade____________________

Color Key:
1st____ 2nd____
3rd____ 4th____

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ① | ② | ③ | ④ | ⑥ | (111) | * | (112) | ⑦ | ⑧ | * | ㉙ | ㉚ | (118) | * | (119) | ㉛ | ㉜ | ㉞ | ㉟ |
| | 2<br>+4 | 7<br>+3 | 9<br>+2 | 8<br>+4 | 5<br>1<br>+2 | 4 + 3 = ☐ | 16 + 3 = ☐ | 6 + ☐ = 7 | 37<br>+ 2 | 40<br>+10 | 52<br>+33 | 8<br>−2 | 10<br>− 4 | 9 − 5 = ☐ | 15 − 5 = ☐ | 8 − ☐ = 4 | 11<br>− 7 | 12<br>− 3 | 35<br>− 2 | 86<br>−15 |
| **NAME** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | **13** | **14** | **15** | **16** | **17** | **18** | **19** | **20** |
| 1. | | | | | | | | | | | | | | | | | | | | |
| 2. | | | | | | | | | | | | | | | | | | | | |
| 3. | | | | | | | | | | | | | | | | | | | | |
| 4. | | | | | | | | | | | | | | | | | | | | |
| 5. | | | | | | | | | | | | | | | | | | | | |
| 6. | | | | | | | | | | | | | | | | | | | | |
| 7. | | | | | | | | | | | | | | | | | | | | |
| 8. | | | | | | | | | | | | | | | | | | | | |
| 9. | | | | | | | | | | | | | | | | | | | | |
| 10. | | | | | | | | | | | | | | | | | | | | |
| 11. | | | | | | | | | | | | | | | | | | | | |
| 12. | | | | | | | | | | | | | | | | | | | | |
| 13. | | | | | | | | | | | | | | | | | | | | |
| 14. | | | | | | | | | | | | | | | | | | | | |
| 15. | | | | | | | | | | | | | | | | | | | | |
| 16. | | | | | | | | | | | | | | | | | | | | |
| 17. | | | | | | | | | | | | | | | | | | | | |
| 18. | | | | | | | | | | | | | | | | | | | | |
| 19. | | | | | | | | | | | | | | | | | | | | |
| 20. | | | | | | | | | | | | | | | | | | | | |
| 21. | | | | | | | | | | | | | | | | | | | | |
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| 24. | | | | | | | | | | | | | | | | | | | | |
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| 26. | | | | | | | | | | | | | | | | | | | | |
| 27. | | | | | | | | | | | | | | | | | | | | |
| 28. | | | | | | | | | | | | | | | | | | | | |
| 29. | | | | | | | | | | | | | | | | | | | | |
| 30. | | | | | | | | | | | | | | | | | | | | |

CVCSD/A161(58)6-77

## CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
## COMPUTATION INVENTORY - LEVEL II
## FORM A

DATE________________

NAME________________

① $\begin{array}{r} 8 \\ +5 \\ \hline \end{array}$

② $\begin{array}{r} 23 \\ +\ 9 \\ \hline \end{array}$

③ $\begin{array}{r} 55 \\ +37 \\ \hline \end{array}$

④ $\begin{array}{r} 66 \\ +85 \\ \hline \end{array}$

⑤ $\begin{array}{r} 345 \\ +604 \\ \hline \end{array}$

⑥ $\begin{array}{r} 729 \\ +122 \\ \hline \end{array}$

⑦ $9 + 6 = \square$

⑧ $5 + \square = 12$

⑨ $\square + 8 = 11$

⑩ $16 - 7 = \square$

⑪ $12 - \square = 3$

⑫ $\square - 4 = 4$

⑬ $\begin{array}{r} 14 \\ -\ 6 \\ \hline \end{array}$

⑭ $\begin{array}{r} 15 \\ -\ 8 \\ \hline \end{array}$

⑮ $\begin{array}{r} 74 \\ -\ 9 \\ \hline \end{array}$

⑯ $\begin{array}{r} 42 \\ -16 \\ \hline \end{array}$

⑰ $\begin{array}{r} 93 \\ -48 \\ \hline \end{array}$

⑱ $\begin{array}{r} 658 \\ -502 \\ \hline \end{array}$

⑲ $\begin{array}{r} 536 \\ -318 \\ \hline \end{array}$

⑳ $\begin{array}{r} 874 \\ -325 \\ \hline \end{array}$

㉑ $\begin{array}{r} 3 \\ \times 2 \\ \hline \end{array}$

㉒ $\begin{array}{r} 5 \\ \times 3 \\ \hline \end{array}$

㉓ $5 \times 5 = \square$

Use < (is less than), > (is greater than) or = (is equal to)

㉔ 5 + 4 ○ 7 + 3

㉕ 10 - 3 ○ 11 - 4

CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
COMPUTATION INVENTORY - LEVEL II
FORM A

DATE ____________ NAME Answer Key

| | | | | | |
|---|---|---|---|---|---|
| 5 ① 8<br>+5<br>13 | 9 ② 23<br>+ 9<br>32 | 10 ③ 55<br>+37<br>92 | 10 ④ 66<br>+85<br>151 | 12 ⑤ 345<br>+ 604<br>949 | 13 ⑥ 729<br>+ 122<br>851 |
| 114<br>⑦ 9 + 6 = 15 | | 112<br>⑧ 5 + 7 = 12 | | 113<br>⑨ 3 + 8 = 11 | |
| 121<br>⑩ 16 - 7 = 9 | | 119<br>⑪ 12 - 9 = 3 | | 120<br>⑫ 8 - 4 = 4 | |
| 33 ⑬ 14<br>- 6<br>8 | 33 ⑭ 15<br>- 8<br>7 | 36 ⑮ 74<br>- 9<br>65 | 37 ⑯ 42<br>-16<br>26 | 37 ⑰ 93<br>- 48<br>45 | 39 ⑱ 658<br>- 502<br>156 |
| 40 ⑲ 536<br>- 318<br>218 | 40 ⑳ 874<br>-325<br>549 | 54, 56 ㉑ 3<br>x 2<br>6 | 55, 56 ㉒ 5<br>x 3<br>15 | 55 ㉓<br>5 x 5 = 25 | |

Use < (is less than), > (is greater than) or = (is equal to)

㉔ 115 5 + 4 [✓ <] 7 + 3

㉕ 122 10 - 3 [✓ =] 11 - 4

Script numerals in each box refer to Kennedy Kit Cards

**MATHEMATICS INVENTORY**
**LEVEL II, COMPUTATION**
**FORM A**

Teacher______________

Grade_______________

Color Key:
1st____ 2nd____
3rd____ 4th____

# CLASS RECORD OF ITEMS

*Circled numerals refer to Kennedy Kit Card*

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ⑤ | ⑨ | ⑩ | ⑩ | ⑫ | ⑬ | (114) | (112) | (113) | (121) | (119) | (120) | ㉝ | ㉝ | ㊱ | ㊲ | ㊲ | ㊴ | ㊵ | ㊵ | (54)<br>(56) | (55)<br>(56) | (55) | (115) | (122) |
| | 8<br>+5 | 23<br>+9 | 55<br>+37 | 66<br>+85 | 345<br>+604<br>↑ | 729<br>+122 | 9 + 6 = ☐ | 5 + ☐ = 12 | ☐ + 8 = 11 | 16 - 7 = ☐ | 12 - ☐ = 3 | ☐ - 4 = 4 | 14<br>-6 | 15<br>-8 | 74<br>-9 | 42<br>-16 | 93<br>-48 | 658<br>-502 | 536<br>-318<br>↑ | 874<br>-325 | 3<br>x2 | 5<br>x3 | 5 x 5 = ☐ | 5+4 ○ 7+3 | 10-3 ○ 11-4 |
| NAME | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| 1. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4. | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 28. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 29. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30. | | | | | | | | | | | | | | | | | | | | | | | | | |

CVCSD/A161(61)6-77

# CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
## COMPUTATION INVENTORY - LEVEL III
## FORM A

DATE________________________ NAME________________________

| | | | | | |
|---|---|---|---|---|---|
| ① 64<br>28<br>+ 17 | ② 578<br>+ 251 | ③ \$2.91<br>+ 4.39 | ④ 4283<br>+ 4057 | ⑤ \$6.58<br>- 2.39 | ⑥ 762<br>- 208 |
| ⑦ 965<br>- 478 | ⑧ 3401<br>- 1869 | ⑨ 400<br>x 2 | ⑩ 85<br>x 5 | ⑪ 143<br>x 2 | ⑫ 563<br>x 7 |

| | | |
|---|---|---|
| ⑬ 8 x 6 = ☐ | ⑭ 9 x ☐ = 0 | ⑮ 6 x 10 = ☐ |
| ⑯ 63 ÷ 9 = ☐ | ⑰ 42 ÷ ☐ = 7 | ⑱ 8) 56 |
| ⑲ 4) 18 | ⑳ 3) 219 | ㉑ 7) 292 |

Use < (is less than), > (is greater than) or = (is equal to)

㉒ 7 + 6 ○ 6 + 7

㉓ 15 - 7 ○ 18 - 9

㉔ 4 x 9 ○ 7 x 5

㉕ 36 ÷ 6 ○ 54 ÷ 9

# CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
## COMPUTATION INVENTORY - LEVEL III
## FORM A

NAME *Answer Key*

| | | | | | |
|---|---|---|---|---|---|
| 11 ① 64<br>28<br>+ 17<br>109 | 14 ② 578<br>+ 251<br>829 | 15,18 ③ \$2.91<br>+ 4.39<br>\$ 7.30<br>(must have \$ and .) | 16 ④ 4283<br>+ 4057<br>8340 | 38 ⑤ \$6.58<br>- 2.39<br>\$ 4.19<br>(must have \$ and .) | 40 ⑥ 762<br>- 208<br>554 |
| 41 ⑦ 965<br>- 478<br>487 | 42 ⑧ 3401<br>- 1869<br>1532 | 67 ⑨ 400<br>x 2<br>800 | 70 ⑩ 85<br>x 5<br>425 | 71 ⑪ 143<br>x 2<br>286 | 73 ⑫ 563<br>x 7<br>3941 |

| | | |
|---|---|---|
| 134 ⑬ 8 x 6 = $\boxed{48}$ | 57,135 ⑭ 9 x $\boxed{0}$ = 0 | 63 ⑮ 6 x 10 = $\boxed{60}$ |
| 140 ⑯ 63 ÷ 9 = $\boxed{7}$ | 141 ⑰ 42 ÷ $\boxed{6}$ = 7 | 94 ⑱ $8\overline{)56}$ 7 |
| 95 ⑲ $4\overline{)18}$ 4 r 2<br>or $4\frac{2}{4}$ or $4\frac{1}{2}$ | 96 ⑳ $3\overline{)219}$ 73 | 98 ㉑ $7\overline{)292}$ 41 r 5<br>or $41\frac{5}{7}$ |

Use < (is less than), > (is greater than) or = (is equal to)

| | |
|---|---|
| 116 ㉒ 7 + 6 [✓ =] 6 + 7 | 123 ㉓ 15 - 7 [✓ <] 18 - 9 |
| 137 ㉔ 4 x 9 [✓ >] 7 x 5 | 143 ㉕ 36 ÷ 6 [✓ =] 54 ÷ 9 |

Script numerals in each box refer to Kennedy Kit Cards.

# CLASS RECORD OF ITEMS

**MATHEMATICS INVENTORY**
**LEVEL III, COMPUTATION**
**FORM A**

Teacher______________

Grade______________

Color Key:
1st____ 2nd____
3rd____ 4th____

*Circled numerals refer to Kennedy Kit Card*

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (11) | (14) | (15)<br>(18) | (16) | (38) | (40) | (41) | (42) | (67) | (70) | (71) | (73) | (134) | (57)<br>(135) | (63) | (140) | (141) | (94) | (95) | (96) | (98) | (116) | (123) | (137) | (143) |
| 64<br>28<br>+17 | 578<br>+251 | $2.91<br>+4.39 | 4283<br>+4057 | $6.58<br>-2.39 | 762<br>-208 | 965<br>-478 | 3401<br>-1869 | 400<br>x 2 | 85<br>x5 | 143<br>x 2 | 563<br>x 7 | 8 x 6 = □ | 9 x □ = 0 | 6 x 10 = □ | 63 ÷ 9 = □ | 42 ÷ □ = 7 | 8)56 | 4)18 | 3)219 | 7)292 | 7 + 6 ○ 6 + 7 | 15 - 7 ○ 18 - 9 | 4 x 9 ○ 7 x 5 | 36 ÷ 6 ○ 54 ÷ 9 |

| NAME | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4. | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 6. | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 8. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9. | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 11. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14. | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 17. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18. | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 27. | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 30. | | | | | | | | | | | | | | | | | | | | | | | | | |

30

CVCSD/A161(64)6-77

# CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
# COMPUTATION INVENTORY - LEVEL IV
FORM A

DATE ____________________ NAME ______________________________

① $\begin{array}{r} 3685 \\ +\ 4237 \\ \hline \end{array}$

② $\begin{array}{r} 36051 \\ 4719 \\ +\ 25634 \\ \hline \end{array}$

③ $\begin{array}{r} 906 \\ -\ 358 \\ \hline \end{array}$

④ $\begin{array}{r} 4273 \\ -\ 1865 \\ \hline \end{array}$

⑤ $\frac{1}{8} + \frac{3}{8} =$ ________

⑥ $\begin{array}{r} \frac{5}{6} \\ +\ \frac{5}{6} \\ \hline \end{array}$

⑦ $\begin{array}{r} 2\frac{1}{3} \\ +\ \frac{2}{3} \\ \hline \end{array}$

⑧ $\begin{array}{r} \frac{1}{2} \\ +\ \frac{1}{3} \\ \hline \end{array}$

⑨ $\frac{3}{8} - \frac{1}{8} =$ ________

⑩ $\frac{7}{5} - \frac{2}{5} =$ ________

⑪ $\begin{array}{r} 7\frac{5}{6} \\ -\ 2\frac{1}{6} \\ \hline \end{array}$

⑫ $\begin{array}{r} \frac{3}{4} \\ -\ \frac{1}{2} \\ \hline \end{array}$

⑬ $\begin{array}{r} 31 \\ \times\ 90 \\ \hline \end{array}$

⑭ $\begin{array}{r} 87 \\ \times\ 64 \\ \hline \end{array}$

⑮ $\begin{array}{r} 403 \\ \times\ 75 \\ \hline \end{array}$

⑯ $\begin{array}{r} \$35.76 \\ \times\quad 8 \\ \hline \end{array}$

⑰ $\begin{array}{r} \$9.43 \\ \times\ 23 \\ \hline \end{array}$

⑱ $\begin{array}{r} 8526 \\ \times\ 4 \\ \hline \end{array}$

⑲ $6 \times \frac{1}{5} =$ ________

⑳ $5\overline{)97}$

㉑ $6\overline{)803}$

㉒ $54\overline{)673}$

㉓ $78\overline{)3781}$

Use < (is less than), > (is greater than) or = (is equal to)

㉔ 72 ÷ 9 ○ 48 ÷ 6

㉕ (3 x 9) + 3 ○ (6 x 5) + 1

CVCSD/A161(65)6-.

# CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
## COMPUTATION INVENTORY - LEVEL IV
## FORM A

NAME ANSWER KEY

16 ① 3685 + 4237 = 7922

17 ② 36051 + 4719 + 25634 = 66404

41 ③ 906 - 358 = 548

42 ④ 4273 - 1865 = 2408

19 ⑤ $\frac{1}{8} + \frac{3}{8} = \frac{4}{8} = \frac{1}{2}$ *

21 ⑥ $\frac{5}{6} + \frac{5}{6} = \frac{10}{6} = 1\frac{2}{3}$ *

20, 23 ⑦ $2\frac{1}{3} + \frac{2}{3} = 3$ *

25 ⑧ $\frac{1}{2} + \frac{1}{3} = \frac{5}{6}$

43 ⑨ $\frac{3}{8} - \frac{1}{8} = \frac{2}{8} = \frac{1}{4}$ *

45 ⑩ $\frac{7}{5} - \frac{2}{5} = \frac{5}{5} = 1$ *

46 ⑪ $7\frac{5}{6} - 2\frac{1}{6} = 5\frac{4}{6} = 5\frac{2}{3}$ *

49 ⑫ $\frac{3}{4} - \frac{1}{2} = \frac{1}{4}$

74 ⑬ 31 x 90 = 2790

76 ⑭ 87 x 64
348
522
5568

78 ⑮ 403 x 75
2015
2821
30225

77 ⑯ $35.76 x 8
*$286.08
(must have $ and .)

80 ⑰ $9.43 x 23
2829
1886
$216.89
(must have $ and .)

81 ⑱ 8526 x 4 = 34104

83 ⑲ $6 \times \frac{1}{5} = \frac{6}{5} = 1\frac{1}{5}$ *

98 ⑳ 5)97 = 19 r 2 or $19\frac{2}{5}$

99 ㉑ 6)803 = 133 r 5 or $133\frac{5}{6}$

100 ㉒ 54)673 = 12 r 25
54
133
108
25

102 ㉓ 78)3781 = 48 r 37
312
661
624
37

Use < (is less than), > (is greater than) or = (is equal to)

143 ㉔ 72 ÷ 9 [✓ =] 48 ÷ 6

144 ㉕ (3 x 9) + 3 [✓ <] (6 x 5) + 1

Script numerals in each box refer to Kennedy Kit Cards

*Although some texts do not require simplifying answers at this level, other texts and

# CLASS RECORD OF ITEMS

*Circled numerals refer to Kennedy Kit Card*

**MATHEMATICS INVENTORY**
**LEVEL IV, COMPUTATION**
**FORM A**

Teacher______________

Grade________________

Color Key:
1st____2nd____
3rd____4th____

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ⑯ | ⑰ | ㊶ | ㊷ | ⑲ | ㉑ | ⑳<br>㉓ | ㉕ | ㊸ | ㊺ | ㊻ | ㊾ | (74) | (76) | (78) | (79) | (80) | (81) | (83) | (98) | (99) | (100) | (102) | (143) | (144) |
| | 3685<br>+4237 | 36051<br>4719<br>+25634 | 906<br>-358 | 4273<br>-1865 | $\frac{3}{8}+\frac{1}{8}=\square$ | $\frac{5}{6}+\frac{5}{6}$ | $2\frac{1}{3}+\frac{2}{3}$ | $\frac{1}{2}+\frac{1}{3}$ | $\frac{3}{8}-\frac{1}{8}=\square$ | $\frac{7}{5}-\frac{2}{5}=\square$ | $7\frac{5}{6}-2\frac{1}{6}$ | $\frac{3}{4}-\frac{1}{2}$ | 31<br>x90 | 87<br>x64 | 403<br>x75 | \$35.76<br>x 8 | \$9.43<br>x 23 | 8526<br>x 4 | $6 \times \frac{1}{5} =$ | $5\overline{)97}$ | $6\overline{)803}$ | $54\overline{)673}$ | $78\overline{)3781}$ | 72 ÷ 9 ○ 48 ÷ 6 | (3x9)+3 ○ (6x5)+1 |
| NAME | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| 1. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6. | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 21. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 23. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24. | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 28. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 29. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30. | | | | | | | | | | | | | | | | | | | | | | | | | |

CVCSD/A161(67)6-77

CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
COMPUTATION INVENTORY - LEVEL V
FORM A

DATE________________ NAME________________________

① $\begin{array}{r} 3492 \\ 765 \\ +\ 14801 \\ \hline \end{array}$

② $625 + 347 =$ _____

③ $\begin{array}{r} 823 \\ -\ 198 \\ \hline \end{array}$

④ $\begin{array}{r} 9205 \\ -\ 8307 \\ \hline \end{array}$

⑤ $\begin{array}{r} 2\frac{3}{8} \\ +\ 2\frac{7}{8} \\ \hline \end{array}$

⑥ $\begin{array}{r} \frac{3}{4} \\ +\ \frac{2}{3} \\ \hline \end{array}$

⑦ $\begin{array}{r} 2\ \frac{1}{2} \\ +\ 3\frac{3}{10} \\ \hline \end{array}$

⑧ $\frac{5}{6} - \frac{1}{6} =$ _____

⑨ $\begin{array}{r} 9\frac{1}{3} \\ -\ 6\frac{2}{3} \\ \hline \end{array}$

⑩ $\begin{array}{r} 5\frac{1}{2} \\ -\ 4\frac{3}{4} \\ \hline \end{array}$

⑪ $1.5 + 3.5 =$ _____

⑫ $\begin{array}{r} 26.37 \\ +\ 41.47 \\ \hline \end{array}$

⑬ $9.7 - 4.4 =$ _____

⑭ $\begin{array}{r} 83.62 \\ -\ 21.82 \\ \hline \end{array}$

⑮ $\begin{array}{r} 600 \\ \times\ 40 \\ \hline \end{array}$

⑯ $\begin{array}{r} 7543 \\ \times\ 201 \\ \hline \end{array}$

⑰ $\frac{2}{3}$ of $6 =$ _____

⑱ $\frac{1}{2} \times \frac{1}{5} =$ _____

⑲ $\frac{3}{4} \times \frac{2}{5} =$ _____

⑳ $133 \div 4 =$ _____

㉑ $57\overline{)509}$

㉒ $24\overline{)\$16.08}$

㉓ $33\overline{)66375}$

Use < (is less than), > (is greater than) or = (is equal to)

㉔ $.5 \bigcirc .49$

㉕ $\frac{1}{5} \bigcirc \frac{3}{10}$

CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
COMPUTATION INVENTORY - LEVEL V
FORM A

NAME Answer Key

| | | | | |
|---|---|---|---|---|
| 17 ① 3492<br>765<br>+ 14801<br>19058 | * ② 625 + 347 = 972 | 41 ③ 823<br>- 198<br>625 | 42 ④ 9205<br>- 8307<br>898 | 24 ⑤ $2\frac{3}{8}$<br>$+ 2\frac{7}{8}$<br>$5\frac{1}{4}$ |
| 26 ⑥ $\frac{3}{4}$<br>$+ \frac{2}{3}$<br>$1\frac{5}{12}$ | 27 ⑦ $2\frac{1}{2}$<br>$+ 3\frac{3}{10}$<br>$5\frac{4}{5}$ | 44 ⑧ $\frac{5}{6} - \frac{1}{6} = \frac{2}{3}$ | ⑨ 48 $9\frac{1}{3}$<br>$- 6\frac{2}{3}$<br>$2\frac{2}{3}$ | ⑩ 51 $5\frac{1}{2}$<br>$- 4\frac{3}{4}$<br>$\frac{3}{4}$ |
| 28 ⑪ 1.5 + 3.5 = 5.0<br>or 5 | 28 ⑫ 26.37<br>+ 41.47<br>67.84 | 52 ⑬ 9.7 - 4.4 = 5.3 | ⑭ 53 83.62<br>- 21.82<br>61.80 | 77 ⑮ 600<br>x 40<br>24000 |
| 82 ⑯ 7543<br>x 201<br>1,516,143 | ⑰ 84 $\frac{2}{3}$ of 6 = 4 | ⑱ 85 $\frac{1}{2} \times \frac{1}{5} = \frac{1}{10}$ | ⑲ 87 $\frac{3}{4} \times \frac{2}{5} = \frac{3}{10}$ | |
| 99 ⑳ 133 ÷ 4 = 33r1<br>or $33\frac{1}{4}$ | 101 ㉑ 8 r53<br>57)509 | 104 ㉒ $\$.67$<br>24)$\$16.08$<br>(must have $\$$ and .) | 105 ㉓ 2011 r12<br>33)66375 | |

Use < (is less than), > (is greater than) or = (is equal to)

*㉔ .5 [✓ >] .49

*㉕ $\frac{1}{5}$ [✓ <] $\frac{3}{10}$

Script numerals in each box refer to Kennedy Kit Cards.
*No Kennedy Kit card references. See section on Textbook Page References for these items.
NOTE: Simplifying fractional answers is required at this level by all tests and by all texts except Houghton Mifflin.

CVCSD/A161(69)6-77

**MATHEMATICS INVENTORY**
**LEVEL V, COMPUTATION**
**FORM A**

Teacher____________

Grade____________

Color Key:
1st___ 2nd___
3rd___ 4th___

# CLASS RECORD OF ITEMS

*Circled numerals refer to Kennedy Kit Card*

**No Kennedy Kit Card reference here*

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | (17) | * | (41) | (42) | (24) | (26) | (27) | (44) | (48) | (51) | (28) | (28) | (52) | (53) | (77) | (82) | (84) | (85) | (87) | (99) | (101) | (104) | (105) | * | * |
| | 3492<br>765<br>+14801 | $625+347=\square$ | 823<br>−198 | 9205<br>−8307<br>↑ | $2\frac{3}{8}$<br>$+2\frac{7}{8}$ | $\frac{3}{4}$<br>$+\frac{2}{3}$ | $2\frac{1}{2}$<br>$+3\frac{3}{10}$ | $\frac{5}{6}-\frac{1}{6}=\square$ | $9\frac{1}{3}$<br>$-6\frac{2}{3}$ | $5\frac{1}{2}$<br>$-4\frac{3}{4}$ | $1.5+3.5=\square$ | 26.37<br>+41.47<br>↑ | $9.7-4.4=\square$ | 83.62<br>−21.82<br>↑ | 600<br>x40 | 7543<br>x201<br>↑ | $\frac{2}{3}$ of $6=\square$ | $\frac{1}{2}\times$ [illegible]$/5=\square$ | $\frac{3}{4}\times\frac{2}{5}=\square$ | $133\div4=\square$ | $57\overline{)509}$ | $24\overline{)\$16.08}$ | $33\overline{)66375}$ | $.5\ \bigcirc\ .49$ | $\frac{1}{5}\ \bigcirc\ \frac{3}{10}$ |
| NAME | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| 1. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3. | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 26. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 27. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 28. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 29. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30. | | | | | | | | | | | | | | | | | | | | | | | | | |

CVCSD/A161(70)6-77

CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
COMPUTATION INVENTORY - LEVEL VI
FORM A

DATE________________ NAME____________________

① $65 + 5 + 90 =$ ____

② $\begin{array}{r} 80503 \\ -\ 26947 \\ \hline \end{array}$

③ $\begin{array}{r} 7\frac{3}{4} \\ +\ 2\frac{1}{2} \\ \hline \end{array}$

④ $\begin{array}{r} 8 \\ -\ 2\frac{2}{5} \\ \hline \end{array}$

⑤ $\begin{array}{r} 6\frac{1}{3} \\ -\ 4\frac{5}{6} \\ \hline \end{array}$

⑥ $\begin{array}{r} 65.326 \\ +8.014 \\ \hline \end{array}$

⑦ $\begin{array}{r} 76.925 \\ -15.041 \\ \hline \end{array}$

⑧ $\begin{array}{r} 6093 \\ \times\ 415 \\ \hline \end{array}$

⑨ $4 \times 3\frac{3}{5} =$ ____

⑩ $2\frac{2}{3} \times 3\frac{3}{4} =$ ____

⑪ $\begin{array}{r} 9.04 \\ \times\ 7 \\ \hline \end{array}$

⑫ $\begin{array}{r} .02 \\ \times\ 3 \\ \hline \end{array}$

⑬ $1.2 \times .8 =$ ____

⑭ $\begin{array}{r} .37 \\ \times\ .19 \\ \hline \end{array}$

⑮ $8\overline{)90027}$

⑯ $\frac{3}{4} \div \frac{1}{2} =$ ____

⑰ $\frac{5}{6} \div 2 =$ ____

⑱ $2\frac{1}{2} \div 3\frac{1}{3} =$ ____

⑲ $6\overline{)4.38}$

⑳ $.4\overline{)1.6}$

㉑ $.7\overline{)49}$

㉒ $1.5\overline{)4.5}$

㉓ $.02\overline{).5}$

Use < (is less than), > (is greater than) or = (is equal to)

㉔ 6 x 3 ○ 6 x (9 - 6)

㉕ 41 ÷ 6 ○ 36 ÷ 7

# CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
## COMPUTATION INVENTORY - LEVEL VI
## FORM A

NAME Answer Key

* ① $65 + 5 + 90 = 160$

42 ②
$$\begin{array}{r} 80503 \\ -\ 26947 \\ \hline 53556 \end{array}$$

27 ③
$$\begin{array}{r} 7\frac{3}{4} \\ +\ 2\frac{1}{2} \\ \hline 10\frac{1}{4} \end{array}$$

47 ④
$$\begin{array}{r} 8 \\ -\ 2\frac{2}{5} \\ \hline 5\frac{3}{5} \end{array}$$

57 ⑤
$$\begin{array}{r} 6\frac{1}{3} \\ -\ 4\frac{5}{6} \\ \hline 1\frac{1}{2} \end{array}$$

28 ⑥
$$\begin{array}{r} 65.326 \\ +8.014 \\ \hline 73.340 \end{array}$$

53 ⑦
$$\begin{array}{r} 76.925 \\ -15.041 \\ \hline 61.884 \end{array}$$

82 ⑧
$$\begin{array}{r} 6093 \\ \times\ 415 \\ \hline 2,528,595 \end{array}$$

88 ⑨ $4 \times 3\frac{3}{5} = 14\frac{2}{5}$

89 ⑩ $2\frac{2}{3} \times 3\frac{3}{4} = 10$

90 ⑪
$$\begin{array}{r} 9.04 \\ \times\ 7 \\ \hline 63.28 \end{array}$$

⑫*
$$\begin{array}{r} .02 \\ \times\ 3 \\ \hline .06 \end{array}$$

*⑬ $1.2 \times .8 = .96$

*⑭
$$\begin{array}{r} .37 \\ \times\ .19 \\ \hline .0703 \end{array}$$

103 ⑮ $8\overline{)90027}$ 11253 r 3

106 ⑯ $\frac{3}{4} \div \frac{1}{2} = 1\frac{1}{2}$

107 ⑰ $\frac{5}{6} \div 2 = \frac{5}{12}$

108 ⑱ $2\frac{1}{2} \div 3\frac{1}{3} = \frac{3}{4}$

109 ⑲ $6\overline{)4.38}$ .73

145 ⑳ $.4\overline{)1.6}$ 4 or 4.

145 ㉑ $.7\overline{)49}$ 70 or 70.

146 ㉒ $1.5\overline{)4.5}$ 3 or 3.

146 ㉓ $.02\overline{).5}$ 25 or 25.

Use $<$ (is less than), $>$ (is greater than) or $=$ (is equal to)

144 ㉔ $6 \times 3 \; = \; 6 \times (9 - 6)$

*㉕ $41 \div 6 \; > \; 36 \div 7$

Script numerals in each box refer to Kennedy Kit Cards. CVCSD/A161(72)6-77

*No Kennedy Kit Card references. See section on Textbook Page References for these items.

## CLASS RECORD OF ITEMS

**MATHEMATICS INVENTORY**
**LEVEL VI, COMPUTATION**
**FORM A**

Teacher______________

Grade______________

Color Key:
1st____ 2nd____
3rd____ 4th____

*Circled numerals refer to Kennedy Kit Card*

*No Kennedy Kit Card reference here

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | * | ㊷ | ㉗ | ㊼ | (51) | ㉘ | (53) | (82) | (88) | (89) | (90) | * | * | * | (103) | (106) | (107) | (108) | (109) | (145) | (145) | (146) | (146) | (144) | * |
| | $65+5+90=\square$ | $80503 - 26947$ | $7\frac{3}{4} + 2\frac{1}{2}$ | $8 - 2\frac{2}{5}$ | $6\frac{1}{3} - 4\frac{5}{6}$ | $65.326 + 8.014$ | $76.925 - 15.041$ | $6093 \times 415$ | $4 \times 3\frac{3}{5} = \square$ | $2\frac{2}{3} \times 3\frac{3}{4} = \square$ | $9.04 \times 7$ | $.02 \times 3$ | $1.2 \times .8 = \square$ | $.37 \times .19$ | $8\overline{)90027}$ | $\frac{3}{4} \div \frac{1}{2} = \square$ | $\frac{5}{6} \div 2 = \square$ | $2\frac{1}{2} \div 3\frac{1}{3} = \square$ | $6\overline{)4.38}$ | $.4\overline{)1.6}$ | $.7\overline{)49}$ | $1.5\overline{)4.5}$ | $.02\overline{).5}$ | $6\times3 \bigcirc 6\times(9-6)$ | $41+6 \bigcirc 36\div7$ |
| NAME | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| 1. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5. | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 9. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10. | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 12. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14. | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 17. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19. | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 30. | | | | | | | | | | | | | | | | | | | | | | | | | |

CVCSD/A161(73)6-77

# CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
## COMPUTATION INVENTORY - LEVEL VII
## FORM A

DATE ________________ NAME ________________________

① 412 + 3086 + 73 = ____

② 40002
- 26356

③ 6408
x 1579

④ 779)402,836

⑤ $9\frac{9}{16}$
$3\frac{1}{4}$
$+7\frac{3}{8}$

⑥ $4\frac{1}{6}$
$-2\frac{1}{5}$

⑦ $\frac{5}{6} \times \frac{1}{5} \times \frac{3}{4} =$ ____

⑧ $2\frac{2}{3} \div 1\frac{1}{4} =$ ____

⑨ 17.8
.65
43.
+ .02

⑩ 13.67 + 3.3 + .448 = ____

⑪ .0903 - .086 = ____

⑫ .847
- .5394

⑬ .08 x .92 = ____

⑭ .007
x .04

⑮ .7).651

⑯ .91)819

⑰ $10^4 =$ ____

⑱ $10^3 \times 6.42 =$ ____

⑲ $^{+}16 + {}^{-}12 =$ ____

⑳ $0 - {}^{-}6 =$ ____

㉑ $^{-}6 \times {}^{-}6 =$ ____

㉒ $^{+}36 \div {}^{-}9 =$ ____

㉓ 25% of 40 is ____

㉔ 12 is ____ % of 60

㉕ $\frac{1}{3} =$ ____ %

CVCSD/A161(74)6-77

# CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
## COMPUTATION INVENTORY - LEVEL VII
## FORM A

NAME Answer Key

17 ① $412 + 3086 + 73 = \underline{3571}$

42 ② $$\begin{array}{r}40002\\-26356\\\hline 13646\end{array}$$

* ③ $$\begin{array}{r}6408\\\times\ 1579\\\hline 10,118,232\end{array}$$

* ④ $$\begin{array}{r}517 \text{ r } 93\\779\overline{)402,836}\end{array}$$

* ⑤ $$\begin{array}{r}9\frac{9}{16}\\3\ \frac{1}{4}\\+7\ \frac{3}{8}\\\hline 20\ \frac{3}{16}\end{array}$$

51 ⑥ $$\begin{array}{r}4\frac{1}{6}\\-\ 2\frac{1}{5}\\\hline 1\ \frac{29}{30}\end{array}$$

* ⑦ $\frac{5}{6} \times \frac{1}{5} \times \frac{3}{4} = \underline{\frac{1}{8}}$

108 ⑧ $2\frac{2}{3} \div 1\frac{1}{4} = \underline{2\frac{2}{15}}$

28 ⑨ $$\begin{array}{r}17.8\\.65\\43.\\+\ \ .02\\\hline 61.47\end{array}$$

* ⑩ $13.67 + 3.3 + .448 = \underline{17.418}$

* ⑪ $.0903 - .086 = \underline{.0043}$

* ⑫ $$\begin{array}{r}.847\\-\ .5394\\\hline .3076\end{array}$$

* ⑬ $.08 \times .92 = \underline{.0736}$

* ⑭ $$\begin{array}{r}.007\\\times\ .04\\\hline .00028\end{array}$$

146 ⑮ $$\begin{array}{r}.93\\.7\overline{).651}\end{array}$$

146 ⑯ $$\begin{array}{r}900.\\.91\overline{)819}\end{array}$$
or 900

* ⑰ $10^4 = \underline{10,000}$

* ⑱ $10^3 \times 6.42 = \underline{6420.}$
or 6420

* ⑲ ${}^{+}16 + {}^{-}12 = \underline{{}^{+}4}$

* ⑳ $0 - {}^{-}6 = \underline{{}^{+}6}$

* ㉑ ${}^{-}6 \times {}^{-}6 = \underline{{}^{+}36}$

* ㉒ ${}^{+}36 \div {}^{-}9 = \underline{-4}$

* ㉓ 25% of 40 is 10

* ㉔ 12 is 20 % of 60

* ㉕ $\frac{1}{3} = \underline{33.3}\ \%$
or $33\frac{1}{3}$ %

Script numerals in each box refer to Kennedy Kit Cards.
*No Kennedy Kit Card references. See section on Textbook Page References for these items.

CVCSD/A161(75) 6-77

MATHEMATICS INVENTORY
LEVEL VII, COMPUTATION
FORM A

# CLASS RECORD OF ITEMS

*Circled numerals refer to Kennedy Kit Card* *No Kennedy Kit Card reference here*

Teacher________________

Grade________________

Color Key:
1st____ 2nd____
3rd____ 4th____

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ⑰ | (42) | * | * | * | (51) | * | (108) | ㉘ | * | * | * | * | * | (146) | (146) | * | * | * | * | * | * | * | * | * |
| | $412+3086+73=\square$ | $40002$<br>$-26356$ | $6408$<br>$\times 1579$ | $779\overline{)402,836}$ | $9\frac{9}{16}$<br>$3\frac{1}{4}$<br>$+7\frac{3}{8}$ | $4\frac{1}{6}$<br>$-2\frac{1}{5}$ | $\frac{5}{6}\times 1\frac{1}{5}\times\frac{3}{4}=\square$ | $2\frac{2}{3}\div 1\frac{1}{4}=\square$ | $17.8$<br>$.65$<br>$43.$<br>$+\ .02$ | $13.67+3.3+.448=\square$ | $.0903-.086=\square$ | $.847$<br>$-.5394$ | $.08\times .92=\square$ | $.007$<br>$\times .04$ | $.7\overline{).651}$ | $.91\overline{)819}$ | $10^4=\square$ | $10^3\times 6.42=\square$ | $^+16+{}^-12=\square$ | $0-{}^-6=\square$ | $^-6\times{}^-6=\square$ | $^+36\div{}^-9=\square$ | 25% of 40 is ___ | 12 is ___% of 60 | $\frac{1}{3}=$ ___% |
| NAME | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| 1. | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 3. | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 28. | | | | | | | | | | | | | | | | | | | | | | | | | |

CVCSD/A161(76)6-77

# CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
# CONCEPTS AND APPLICATIONS INVENTORIES, LEVELS I-VII
## DIRECTIONS AND SUGGESTIONS FOR USE

The Concepts and Applications Inventories, Levels I-VII, measure skills developed in the current State textbooks, California Framework and standardized tests. They are pupil diagnostic instruments but they can also be used to measure achievement. They include answer keys and teacher directions. Each inventory consists of 20 items measuring concepts and applications developed in each of Grades 1-7. The format is patterned somewhat after that of tests currently used by the District, e.g., some multiple-choice items are included and occasionally "NH" is used to indicate "Answer Not Here" or "None of These."

The inventories are power, not speed tests. There is no time limit. Pupils should be instructed to work accurately and CHECK EACH EXAMPLE. Research shows that the best way to improve math scores is to have pupils check their work. They therefore should be reminded to check. Teachers should have plenty of scratch paper and sharpened pencils readily available. Inventories for Grades 1-3 (Levels I-III) should be administered orally. Even though word problems at Level III do appear on the pupil page it is recommended that teachers read them aloud to pupils. Level IV-VII Inventories may be taken silently by pupils but, again, it is permissible to read each item so that reading ability does not affect math scores.

Because each test measures concepts and applications developed at that grade level, it is wise at the beginning of the school year to administer tests at least one, and sometimes two, levels lower than the grade children are in. For example, at the beginning of Grade 3, Level II could be administered to all third graders (with the exception of any for whom it is known that it would be too difficult or too easy), followed by Level I for any not passing Level II. Third graders who successfully pass Level II should be given Level III to find if any have already mastered some third grade concepts. "Passing" has been interpreted by the Title IV-C teachers to mean successfully completing at least 80% of the items on a test. Other teachers interpret passing to mean successfully completing at least 70-75% of the items since pupils often miss several examples due to carelessness rather than lack of knowledge. In any case, it is important that pupils passing a level should still work on and be checked again on any items they missed. Further, teacher judgment should prevail, e.g., if it is felt that a pupil did not do as well as he should have on a test he should be given the opportunity to take it again after a brief period of review.

Testing should continue until each child's instructional level is determined; this is the level at which he does not successfully answer 80% (or 70-75%) of the items. Testing should continue throughout the year to diagnose and measure each pupil's progress in concepts and applications. For additional information, see the section, Suggestions for Diagnostic Testing, on pages 6 to 8 in this book.

State textbook page references have been prepared for each test item. These are included in Mathematics Prescription, Book IV.

# CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
## CONCEPTS AND APPLICATIONS INVENTORY - LEVEL I FORM A

Directions

*Orient pupils to the test. Then say something like the following:*

NOTE: Today we are going to do some things like we have been doing in math. There may be some new things too, but they will be like what you have already learned. First, write your name at the top of the paper. *(Pause)*

*Begin reading the items aloud. Try to read each item one time only, telling children to be sure to listen carefully and hear it the first time. If you feel that it is necessary to repeat an item, do so. Pause about 10 seconds between items.* PLEASE FEEL FREE TO CHANGE ANY OF THE FOLLOWING WORDING. THE IMPORTANT THING IS FOR PUPILS TO UNDERSTAND.

1. Look at the 1 at the top of the page. *(Hold up a test and point to the 1. Point to other items as needed as you go along.)* Count the X's in the circle. *(Pause)* Write the numeral that tells how many. *(Point out the line on which children are to write the answer.)*

2. Look at problem 2. *(Pause and demonstrate as needed.)* Count the X's in the circle. *(Pause)* Write the numeral that tells how many. *(Check to see children write the numeral on the line.)*

3. Look at problem 3. Count the X's in the circle. *(Pause)* Write the numeral that tells how many. Write it on the line.

4. Look at problem 4. You see 4, 5, 6 and a line for the numeral that comes next. Write the numeral that comes next. Write it on the line.

5. Look at problem 5. You see 17, 18, 19 and a line for the numeral that comes next. Write the numeral that comes next. Write it on the line.

6. Look at problem 6. You see 7, a line and 9. Figure out what numeral comes between 7 and 9. Write it on the line.

7. Look at problem 7. You see 28, 29 and a line for the numeral that comes next. Write the numeral that comes next after 29. Write it on the line.

8. Look at problem 8 You see a line, then 55 and 56. Write the numeral that comes right before 55. Write it on the line.

9. Look at problem 9. Find the numeral 16 in the box. Make an X on it.

Directions (cont.)

10. Look at problem 10. Find the sign in the box that means to subtract. Make an X on it.

11. Look at problem 11. You see six hundred forty-eight. Make an X on the numeral that is in the one's place.

12. Look at problem 12. Here you see 1 dime, 1 nickel and 2 pennies. Figure out how many cents all of them are worth together. Write the answer on the line.

13. Look at problem 13. Find the clock that shows 4 o'clock. Make an X on it.

14. Look at problem 14. Look at the numerals in the box. Find the one that means the greatest number of things. Make an X on it.

15. Look at problem 15. Look at the numerals in the box. Find the one that means the least number of things. Make an X on it.

16. Look at problem 16. The numerals in this box are: 2, 3, 4 and 5. One of them is the answer to this problem. Bill has 2 pets. Joe has 1 pet. Figure out how many pets they both have...Bill has 2, Joe has 1. Make an X on the numeral that tells how many both have.

17. Look at problem 17. The numerals in this box are: 2, 4, 6 and 8. One of them is the answer to this problem. Mother is putting 2 sandwiches on each plate. Figure out how many sandwiches she needs for 3 plates...she puts 2 sandwiches on each plate; she has 3 plates. Make an X on the numeral that tells how many sandwiches she needs.

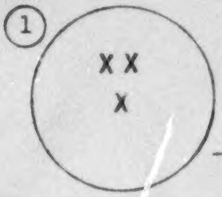
18. Look at problem 18. The numerals in this box are: 5, 1, 6 and 4. One of them is the answer to this problem. Steve has 5 trading cups. Tom has 4. Figure out how many more cups Steve has than Tom has. Make an X on the numeral that tells how many more Steve has...Steve has 5; Tom has 4.

19. Look at problem 19. The numerals in this box are: 10, 20, 30 and 40. One of them is the answer to this problem. There are 30 children in Room 1 when they are all there. So far there are 20. Figure out how many more are to come...30 in all; only 20 there. Make an X on the numeral that tells how many more are to come.

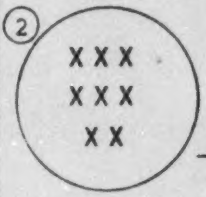
20. Look at problem 20. The numerals in this box are: 7, 1, 6 and 4. One of them is the answer to this problem. Sue gave away 1 doll. She has 5 left. Figure out how many she had at first...she gave away 1; she has 5 left. Make an X on the numeral that tells how many she had at first.

# CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
# CONCEPTS AND APPLICATIONS INVENTORY - LEVEL I
## FORM A

DATE ____________________ NAME ____________________________

①


________

②


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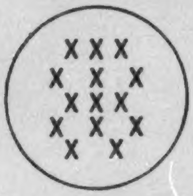
③


________

④ 4, 5, 6, ______

⑤ 17, 18, 19, ______

⑥ 7, ______, 9

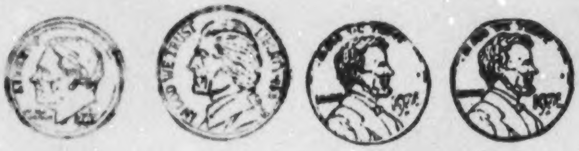
⑦ 28, 29, ______

⑧ ______, 55, 56

⑨ 61 6 16

⑩ = + −

⑪ 648

⑫

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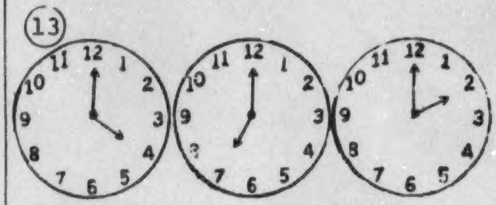


⑭ 53 35 29 49

⑮ 31 13 20 15

⑯ 2 3 4 5

⑰ 2 4 6 8

⑱ 5 1 6 4

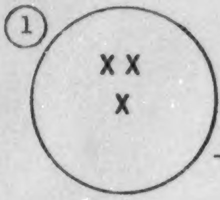
⑲ 10 20 30 40

⑳ 7 1 6 4

CVCSD/A161(80)6-77

## CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
## CONCEPTS AND APPLICATIONS INVENTORY - LEVEL I
## FORM A

DATE ____________ NAME *Answer Key*

① 

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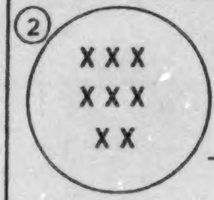
② 

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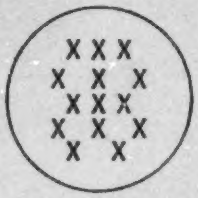
③ 

14

④ 4, 5, 6, 7

⑤ 17, 18, 19, 20

⑥ 7, 8, 9

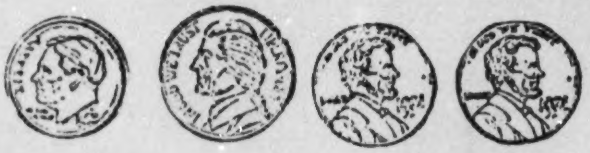
⑦ 28, 29, 30

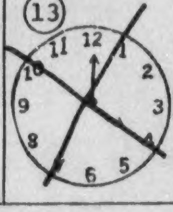
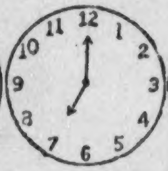
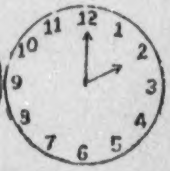
⑧ 54, 55, 56

⑨ 61 6 [✓ 16]

⑩ = + [✓ ×]

⑪ 64[✓ 8]

⑫ 
17 ¢

⑬ 



⑭ [✓ 53] 35 29 49

⑮ 31 [✓ 13] 20 15

⑯ 2 [✓ 3] 4 5

⑰ 2 4 [✓ 6] 8

⑱ 5 [✓ 7] 6 4

⑲ [✓ 10] 20 30 40

⑳ 7 1 [✓ 6] 4

MATHEMATICS INVENTORY
LEVEL I, CONC. & APPL.
FORM A

# CLASS RECORD OF ITEMS

Teacher______________

Grade______________

Color Key:
1st____ 2nd____
3rd____ 4th____

16 thru 20: Problem Solving

|  | Count 3 | Count 8 | Count 14 | 4,5,6,___ | 17,18,19,___ | 7,___,9 | 28,29,___ | ___,55,56 | Ident. 16 | Ident. minus sign | Ident. one's place | Count coins (17¢) | Ident. hour (4:00) | Greatest number | Least number | Add | Add | Subt. | Subt. | Missing sum (subt.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NAME | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
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CVCSD/A161(82)6-77

# CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
# CONCEPTS AND APPLICATIONS INVENTORY - LEVEL II
## FORM A

## Directions

*Orient pupils to the test. Then say something like the following.*

NOTE: Today we are going to do some things like we've been doing during our math time. There may be some new things too but they'll be like what you have already learned. First, write your name at the top of the paper. *(Pause)*

*Begin reading the items aloud. Try to read each item one time only, telling children to be sure to listen carefully and hear it the first time. If you feel that it is necessary to repeat an item, do so. Pause about 10 seconds between items. PLEASE FEEL FREE TO CHANGE ANY OF THE FOLLOWING WORDING. THE IMPORTANT THING IS FOR PUPILS TO UNDERSTAND.*

1. Look at the 1 at the top of the page. *(Hold up a test and point to the 1. Point to other items as needed as you go along.)* Look at the numerals in the box. Find the numeral that means the greatest number of things. Make an X on it.
2. Look at problem 2. *(Pause and demonstrate as needed.)* You see 198, 199 and a line for the numeral that comes next. Write the numeral that comes next. Write it on the line.
3. Look at problem 3. You see a line, then 120 and 121. Write the numeral that comes right before 120. Write it on the line.
4. Look at problem 4. Here you see one quarter, 2 dimes and 1 penny. Figure out how many cents all of them are worth together. Write the answer on the line.
5. Look at problem 5. Here are some sticks with 10 beans on them and a few more loose beans. Figure out how many beans there are altogether. Write the answer on the line.
6. Look at problem 6. Look at the numerals in the box. Find the numeral that means 2 tens and 5 ones. Make an X on it.
7. Look at problem 7. Look at the numerals in the box. Find the numeral that is one less than 120. Make an X on it.
8. Look at problem 8. Look at the numerals in the box. Find the one which is one hundred eight. Make an X on it.
9. Look at problem 9. Look at the numerals in the box. They are in a series, but one of the series is missing. You see 2, 4, a line, and then 8...2, 4, something, 8. Figure out what numeral is missing. Write it on the line.
10. Look at problem 10. One of these is an odd number. Make an X on it.

Directions (Cont.)

11. Look at the chart that says "Grade" and "Number of Children." (*Illustrate by pointing to chart.*) The chart shows how many children are in Grades 1, 2, 3 and 4. Which grade has the most children? (*Pause*) Grade 1, Grade 2, Grade 3 or Grade 4? Don't answer out loud; just look at problem 11 below the chart and make an X on the grade that has the most children.

12. Look at the chart again. How many more children are in Grade 3 than in Grade 2? (*Pause*) 0, 1, 3 or 4? Look at problem 12 below the chart and make an X on the numeral that tells how many more are in Grade 3 than in Grade 2.

13. Look at the chart again. How many fewer children are in Grade 1 than in Grade 2? (*Pause*) 1, 2, 9 or 10? Look at problem 13 below the chart and make an X on numeral that tells how many fewer are in Grade 1 than in Grade 2.

14. Look at problem 14. The numerals in this box are: 7, 3, 5 and 2. One of them is the answer to this problem. Five people ride in one car. Two people ride in another car. Figure out how many people ride in both cars. Make an X on the numeral that shows how many ride in both.

15. Look at problem 15. The numerals in this box are: 2, 5, 10 and 20. One of them is the answer to this problem. A big truck goes 5 miles on 1 gallon of gas. Figure out how many miles it should go on 2 gallons. Make an X on the numeral that shows how many miles on 2 gallons.

16. Now move over to the clocks in the middle of the page. Look at the first clock, Clock A. Figure out what time Clock A shows. Now look at problem 16. Make an X on the time Clock A shows.

17. Now look at the first clock, Clock A, again. It shows the time Jane went out to play. Look at the second clock, Clock B. It shows the time Jane came in. Figure out how long Jane played. Make an X on the answer that shows how long.

18. Look at problem 18. The numerals in this box are 2, 6, 8 and 14. One of these is the answer to this problem. Tom has 8 pennies. He lost some. He has 6 left. Figure out how many pennies he lost. Make an X on the numeral that shows how many he lost.

19. Look at problem 19. The numerals in this box are: 15¢, 20¢, 25¢ and 30¢. One of them is the answer to this problem. A box of candy bars costs 20¢. One candy bar costs 5¢. Figure out how many more cents the box of candy bars costs than the 1 bar costs. Make an X on the numeral that shows how many more cents the box costs than the 1 bar.

20. Look at problem 20. The numerals in this box are: 4, 26, 6, and 2. One of them is the answer to this problem. There are 12 girls and 14 boys in a class. Figure out how many more boys than girls are in the class. Make an X on the numeral that shows how many more boys than girls.

# CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
# CONCEPTS AND APPLICATIONS INVENTORY - LEVEL II
## FORM A

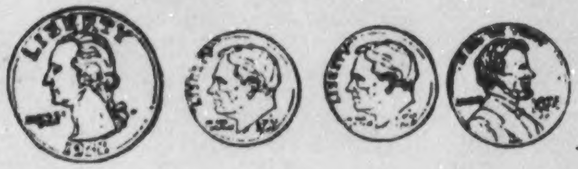
DATE________________ NAME ________________

① 123 321 319

② 198, 199, ________

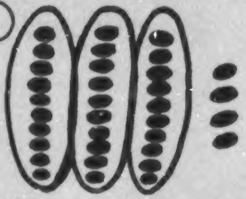
③ ________, 120, 121

④



________¢

⑤



________

⑥ 21051 52 25 215

⑦ 191 119 121

⑧ 1008 180 108

⑨ 2, 4, ______, 8

⑩ 4 10 7 6

(11-13)

| Grade | Number of Children |
|---|---|
| 1 | 29 |
| 2 | 30 |
| 3 | 33 |
| 4 | 38 |

⑪ Which grade has the most children?

1 2 3 4

⑫ How many more in Grade 3 than Grade 2?

0 1 3 4

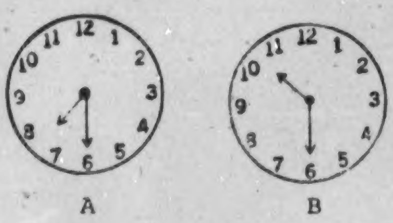
⑬ How many fewer in Grade I than Grade 2?

1 2 9 10

⑭ 7 3 5 2

⑮ 2 5 10 20

(16-17)



⑯ 8:30 9:30 7:30 11:30

⑰ 3 min. 2 hr. 3 hr. 4 hr.

⑱ 2 6 8 14

⑲ 15¢ 20¢ 25¢ 30¢

⑳ 4 26 6 2

CVCSD/A161(84)6-77

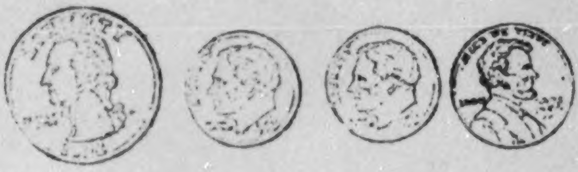
CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
CONCEPTS AND APPLICATIONS INVENTORY - LEVEL II
FORM A

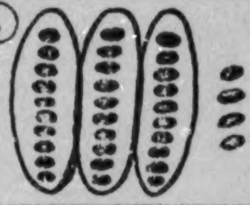
NAME Answer Key

① 123 [✓ 391] 319

② 198, 199, 200

③ 119, 120, 121

④

46 ¢

⑤

34

⑥ 21051 52 [✓ 25] 215

⑦ 191 [✓ 129] 121

⑧ 1008 180 [✓ 108]

⑨ 2, 4, 6, 8

⑩ 4 10 [✓ 7] 6

11-13

| Grade | Number of Children |
|---|---|
| 1 | 29 |
| 2 | 30 |
| 3 | 33 |
| 4 | 38 |

⑪ Which grade has the most children?

1 2 3 [✓ 4]

⑫ How many more in Grade 3 than Grade 2?

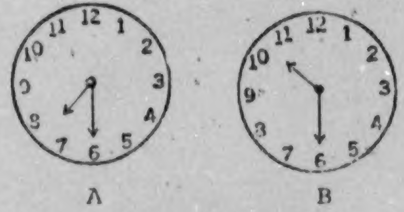
0 1 [✓ 3] 4

⑬ How many fewer in Grade 1 than Grade 2?

[✓ 1] 2 9 10

⑭ [✓ 4] 3 5 2

⑮ 2 5 [✓ 10] 20

16-17


⑯ 8:30 9:30 [✓ 7:30] 11:30

⑰ 3 min. 2 hr. [✓ 3 hr.] 4 hr.

⑱ [✓ 2] 6 8 14

⑲ [✓ 15¢] 20¢ 25¢ 30¢

⑳ 4 26 6 [✓ 7]

CVCSD/A161 (85) 6-77

# CLASS RECORD OF ITEMS

MATHEMATICS INVENTORY
LEVEL II CONC. & APPL.
FORM A

Teacher________________

Grade________________

Color Key:
1st____ 2nd____
3rd____ 4th____

11 thru 20: Problem Solving

|  |  |  |  |  |  |  |  |  |  |  | Interpret Graph |  |  |  |  | Tell Time |  |  |  |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | Greatest 3-digit numeral | 198,199,___ | ___,120,121 | Count money (coins) | Count tens & ones | Ident. 2-digit numeral | One less than 120 | Ident. one hundred eight | Count by 2's | Odd number | most | more | fewer | Add | Add | Half hour | Subt. | Subt. | Subt. money | Subt. |
| NAME | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 1. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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CVCSD/A161(86)-77

# CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
# CONCEPTS AND APPLICATIONS INVENTORY - LEVEL III
## FORM A

## Directions

*Orient pupils to the test. Then say something like the following.*

NOTE: Today we are going to do some things like we've been doing for math. There may be some new things too, but they'll be like what you have already learned. First, write your name at the top of the paper. *(Pause)*

*Begin reading the items aloud. Try to read each item one time only, telling children to be sure to listen carefully and hear it the first time. If you feel that it is necessary to repeat an item, do so. Pause about 10 seconds between items.* PLEASE FEEL FREE TO CHANGE ANY OF THE FOLLOWING WORDING. THE IMPORTANT THING IS FOR PUPILS TO UNDERSTAND.

1. Look at the 1 at the top of the page. *(Hold up a test and point to the 1. Point to other items as needed as you go along.)* Look at the numerals in the box. They are in a series. You see 997, 998, 999 and then a line. Figure out what numeral belongs on the line. Write it on the line.
2. Look at problem 2. Look at the numerals in the box. They are also in a series. You see 11, 9, 7 and then a line. Figure out what numeral belongs on the line. Write it on the line.
3. Look at problem 3. Look at the numerals in the box. One of them is the answer to this problem. Figure out how many sets of 2 there are in 6...How many 2's in 6? Make an X on the numeral that shows how many 2's in 6.
4. Look at problem 4. Look at the Roman numerals in the box. One of these means 4. Make an X on the Roman numeral that means 4.
5. Look at problem 5. You see three thousand five hundred eighty-nine. Make an X on the numeral that is in the hundred's place.
6. Look at problem 6. One of these is an odd number. Make an X on it.
7. Look at problem 7. Look at the numerals in the box. All of these except one are other names for 7. Figure out which is not another name for 7. Make an X on it.
8. Look at problem 8. Look at the numerals in the box. Figure out which of these is six thousand two. Make an X on six thousand two (6002).
9. Look at problem 9, Here is part of a number line. Two numerals are missing. Figure out what the first missing numeral is... the one that belongs on the line. Write it on the line.
10. Look at problem 10. Here is part of another number line. Figure out what numeral is missing and belongs on the line. Write it on the line.

## CONCEPTS AND APPLICATIONS INVENTORY - LEVEL III FORM A

Directions (cont.)

NOTE: *Read items 11-20 aloud to pupils. Be sure to point out that NH means not here, that the correct answer is not given.*

11. 6 children are standing. 3 more stand. Then 8 more stand. How many are standing altogether? Put an X on the numeral that shows how many are standing.

12. Steve had 16 baseball trading cards. He was given 17 more. How many does he have now? Put an X on the numeral that shows how many cards he has now.

13. Joe did 15 problems. He got 9 wrong. How many are right? Put an X on the numeral that shows how many problems Joe got right.

14. There are 18 oranges in 2 bags. Each bag has the same number in it. How many oranges in each? Put an X on the numeral that shows how many oranges are in each bag.

15. There are 30 children in Room 3. 13 are girls. How many are boys? Put an X on the numeral that shows how many boys there are in Room 3.

16. If it is 2 miles halfway to the park how many miles is it all the way to the park? Put an X on the numeral that shows how many miles it is to the park.

17. Pencils are 2 for 10¢. How many can you buy for 40¢? Put an X on the numeral that shows how many pencils you can buy for 40¢.

18. Sue takes 2 swimming lessons each week. How many does she take in 12 weeks? Put an X on the numeral that shows how many lessons Sue takes in 12 weeks.

19. Bill had 75¢. He lost some of it. He has 59¢ left. How much did he lose? Put an X on the numeral that shows how much money Bill lost.

20. Maria earned $1.00 a week for 3 weeks. How much more does she need to have earned $7.50? Put an X on the amount that shows how much Maria needs to earn.

# CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
# CONCEPTS AND APPLICATIONS INVENTORY - LEVEL III
## FORM A

DATE ____________________ NAME ____________________

① 997, 998, 999, ____

② 11, 9, 7, ____

③ 2 3 6 26

④ IX V VI IV

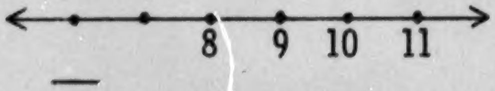
⑤ 3589

⑥ 8 6 9 4

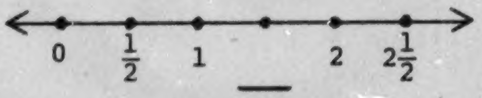
⑦ 2 + 3 + 2 8 - 1 4 + 2 seven

⑧ 60002 6020 6002 602

⑨



⑩



PUT AN X ON THE RIGHT ANSWER. NH MEANS ANSWER NOT HERE.

⑪ 6 children are standing. 3 more stand. Then 8 more stand. How many are standing altogether?

9 18 16 17 NH

⑫ Steve had 16 baseball trading cards. He was given 17 more. How many does he have now?

1 23 33 43 NH

⑬ Joe did 15 problems. He got 9 wrong. How many are right?

15 6 7 24 NH

⑭ There are 18 oranges in 2 bags. Each bag has the same number in it. How many oranges in each?

16 6 9 20 NH

⑮ There are 30 children in Room 3. 13 are girls. How many are boys?

17 15 23 43 NH

⑯ If it is 2 miles halfway to the park how many miles is it all the way to the park?

$\frac{1}{2}$ 1 $2\frac{1}{2}$ 4 NH

⑰ Pencils are 2 for 10¢. How many can you buy for 40¢?

4 8 20 200 NH

⑱ Sue takes 2 swimming lessons each week. How many does she take in 12 weeks?

6 14 10 24 NH

⑲ Bill had 75¢. He lost some of it. He has 59¢ left. How much did he lose?

26¢ 24¢ 18¢ 16¢ NH

⑳ Maria earned $1.00 a week for 3 weeks. How much more does she need to have earned $7.50?

$3.50 $6.50 $5.50 $10.50 NH

### CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
### CONCEPTS AND APPLICATIONS INVENTORY - LEVEL III
### FORM A

NAME Answer Key

① 997, 998, 999, 1000

② 11, 9, 7, 5

③ 2 [✓ 3] 6 26

④ IX V VI [✓ IV]

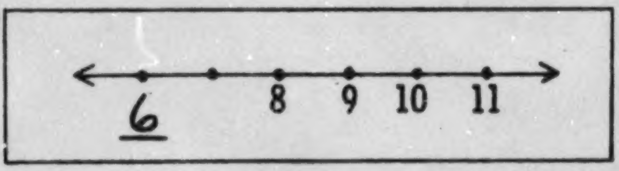
⑤ 3[✓ 4]89

⑥ 8 6 [✓ [illegible]] 4

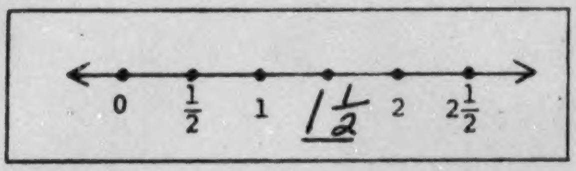
⑦ 2 + 3 + 2 8 - 1 [✓ 4 + 2] seven

⑧ 60002 6020 [✓ 6002] 602

⑨



⑩



PUT AN X ON THE RIGHT ANSWER. NH MEANS ANSWER NOT HERE.

⑪ 6 children are standing. 3 more stand. Then 8 more stand. How many are standing altogether?

9 18 16 [✓ 17] NH

⑫ Steve had 16 baseball trading cards. He was given 17 more. How many does he have now?

1 23 [✓ 33] 43 NH

⑬ Joe did 15 problems. He got 9 wrong. How many are right?

15 [✓ 6] 7 24 NH

⑭ There are 18 oranges in 2 bags. Each bag has the same number in it. How many oranges in each?

16 6 [✓ 9] 20 NH

⑮ There are 30 children in Room 3. 13 are girls. How many are boys?

[✓ 17] 15 23 43 NH

⑯ If it is 2 miles halfway to the park how many miles is it all the way to the park?

$\frac{1}{2}$ 1 $2\frac{1}{2}$ [✓ 4] NH

⑰ Pencils are 2 for 10¢. How many can you buy for 40¢?

4 [✓ 8] 20 200 NH

⑱ Sue takes 2 swimming lessons each week. How many does she take in 12 weeks?

6 14 10 [✓ 24] NH

⑲ Bill had 75¢. He lost some of it. He has 59¢ left. How much did he lose?

26¢ 24¢ 18¢ [✓ 16¢] NH

⑳ Maria earned $1.00 a week for 3 weeks. How much more does she need to have earned $7.50?

$3.50 $6.50 $5.50 $10.50 [✓ NH]

# CLASS RECORD OF ITEMS

MATHEMATICS INVENTORY
LEVEL III CONC. & APPL.
FORM A

Teacher________________

Grade________________

Color Key:
1st____ 2nd____
3rd____ 4th____

11 thru 20: Problem Solving

| | 997,998,999,___ | 11,9,7,___ | Sets of 2 in 6 | Roman numeral IV | Ident. hundred's place | Odd number | Names for 7 | Ident. six thousand two | Number line (whole nos.) | Number line (halves) | Add 3 numbers | Add 2 numbers | Subt. | Div. | Subt. | Add or mult. | 2-step: div. & div. | Mult. | Subt. | 2-step: mult. & subt. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NAME | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 1. | | | | | | | | | | | | | | | | | | | | |
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# CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
## CONCEPTS AND APPLICATIONS INVENTORIES - LEVELS IV-VII

### Directions

These tests are self-explanatory. No oral directions need be given. However, if it is felt that pupils will have difficulty reading the problems, please read them aloud to them. Try to read each item one time only, telling children to be sure to listen carefully and hear it the first time. If you feel that it is necessary to repeat an item, do so. Pause about 10 seconds between items. Be sure to point out and discuss, if necessary, the use of NH for Answer Not Here. Also, if you prefer to have pupils circle their responses rather than make X's on them, please ask them to do so.

Note: In this book some of the two-page inventories appear on facing pages. However, copies of the inventories actually taken by the pupils are printed on opposite sides of the same sheet.

# CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
# CONCEPTS AND APPLICATIONS INVENTORY - LEVEL IV
## FORM A

DATE____________________ NAME ____________________________

PUT AN X ON THE RIGHT ANSWER.

① Which does not mean the same as $\frac{1}{2}$? $\frac{5}{10}$ $\frac{2}{4}$ $\frac{6}{12}$ $\frac{4}{6}$

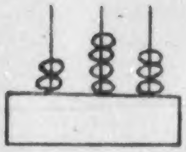
② 50,000 + 700 + 2 = : 500702 57002 50702 5072

③ Which fraction is least? $\frac{1}{8}$ $\frac{1}{2}$ $\frac{1}{5}$ $\frac{1}{3}$

④ In which is an 8 in both the hundred's place and in the one's place?

8682 8628 6828 6288

⑤



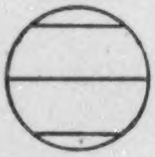
Shows: 342 432 243 234

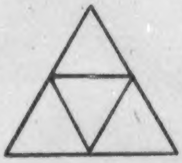
⑥ In which set is each number odd?

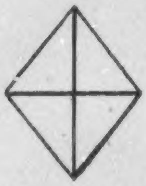
{41, 73, 68, 55} {53, 65, 77, 81} {31, 54, 89, 73} {33, 47, 76, 59}

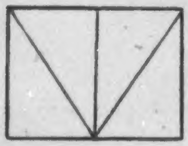
⑦ 3 x 185 is nearest to: 300 400 500 600

⑧ Which does not show fourths?









COMPLETE

⑨ Write the numeral that comes next: 3, 7, 11, _____.

⑩ Find the rule. Write the missing numeral:

(24, 8) (15, 5) (12, 4) (27, ___)

CONTINUE ON THE OTHER SIDE

# CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
## CONCEPTS AND APPLICATIONS INVENTORY - LEVEL IV (cont.)
## FORM A

NAME ______________________________

PUT AN X ON THE RIGHT ANSWER.

You may use the back of this sheet or scratch paper for your work. Be sure to mark the answer in each box.

⑪ Lee put 18 glasses in one stack, 36 in another stack and 45 in a third stack. How many glasses in all 3 stacks ?

89 109 99 97

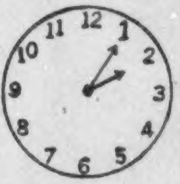
⑫ Maria's family has gone 448 miles. They need to go 503 miles. How many more miles must they go ?

145 65 155 55

⑬ One pizza is enough for 5 children. How many pizzas are needed for 65 children ?

70 11 325 13

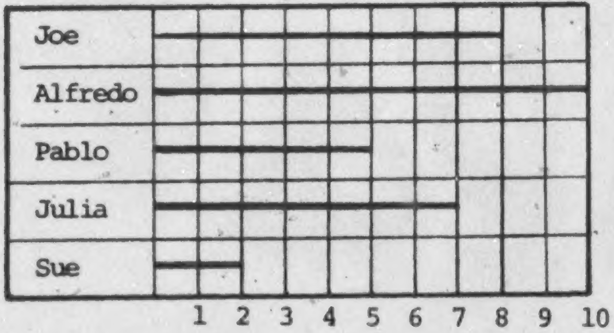
⑭ Look at the clock. How many more minutes until it is 3:00 ?



5 12 55 50

(15-17)

Hours Spent Playing One Weekend



⑮ How many more hours did Joe play than Sue ?

5 7 10 6

⑯ Who played just half as long as Alfredo ?

Joe Pablo Julia Sue

⑰ How many children played more than 6 hours ?

1 2 3 4

⑱ Don bought a ball for 44¢, gum for a nickel and potato chips for a quarter. Without tax, how much did he spend ?

69¢ 64¢ 84¢ 74¢

⑲ A box holds 8 pens. How many pens in 56 boxes ?

8 7 448 6

⑳ Bill had 60¢. He spent 40¢. Which sentence can you use to find how much money he has left ?

| | | | |
|---|---|---|---|
| 60¢ + 40¢ = ___ | 60¢ - 40¢ = ___ | 40¢ - 60¢ = ___ | ___ - 60¢ = 40¢ |

## CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
## CONCEPTS AND APPLICATIONS INVENTORY - LEVEL IV FORM A

DATE ______________________ NAME ______________________

PUT AN X ON THE RIGHT ANSWER.

① Which does not mean the same as $\frac{1}{2}$? $\frac{5}{10}$ $\frac{2}{4}$ $\frac{6}{12}$ [✓ $\frac{4}{6}$]

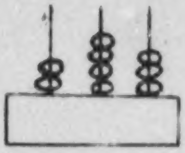
② 50,000 + 700 + 2 = : 500702 57002 [✓ 50702] 5072

③ Which fraction is least? [✓ $\frac{1}{8}$] $\frac{1}{2}$ $\frac{1}{5}$ $\frac{1}{3}$

④ In which is an 8 in both the hundred's place and in the one's place?

8682 8628 [✓ 6828] 6288

⑤



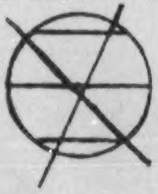
Shows: 342 432 [✓ 243] 234

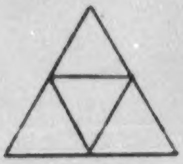
⑥ In which set is each number odd?

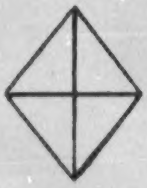
{41, 73, 68, 55} [✓ {53, 65, 77, 81}] {31, 54, 89, 73} {33, 47, 76, 59}

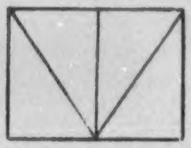
⑦ 3 x 185 is nearest to: 300 400 500 [✓ 600]

⑧ Which does not show fourths?

[✓ ]







COMPLETE

⑨ Write the numeral that comes next: 3, 7, 11, 15.

⑩ Find the rule. Write the missing numeral:

(24, 8) (15, 5) (12, 4) (27, 9)

CONTINUE ON THE OTHER SIDE

CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
CONCEPTS AND APPLICATIONS INVENTORY - LEVEL IV (cont.)
FORM A

NAME ______________________

PUT AN X ON THE RIGHT ANSWER.

You may use the back of this sheet or scratch paper for your work. Be sure to mark the answer in each box.

⑪ Lee put 18 glasses in one stack, 36 in another stack and 45 in a third stack. How many glasses in all 3 stacks ?

89 109 [✓ 99] 97

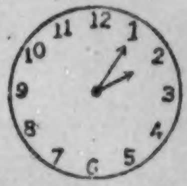
⑫ Maria's family has gone 448 miles. They need to go 503 miles. How many more miles must they go ?

145 65 155 [✓ 55]

⑬ One pizza is enough for 5 children. How many pizzas are needed for 65 children ?

70 11 325 [✓ 13]

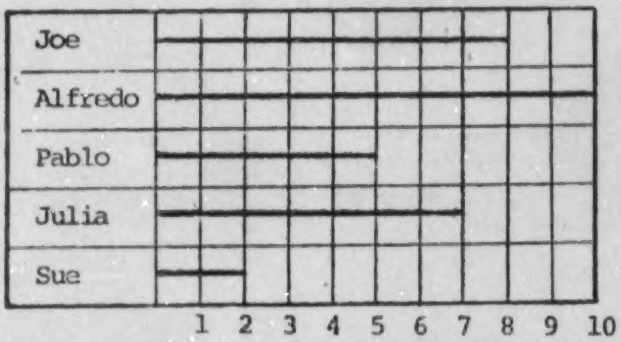
⑭ Look at the clock. How many more minutes until it is 3:00 ?



5 12 [✓ 55] 50

(15-17)

Hours Spent Playing One Weekend



⑮ How many more hours did Joe play than Sue ?

5 7 10 [✓ 6]

⑯ Who played just half as long as Alfredo ?

Joe [✓ Pablo] Julia Sue

⑰ How many children played more than 6 hours ?

1 2 [✓ 3] 4

⑱ Don bought a ball for 44¢, gum for a nickel and potato chips for a quarter. Without tax, how much did he spend ?

69¢ 64¢ 84¢ [✓ 74¢]

⑲ A box holds 8 pens. How many pens in 56 boxes ?

8 7 [✓ 448] 6

⑳ Bill had 60¢. He spent 40¢. Which sentence can you use to find how much money he has left ?

60¢ + 40¢ = ___ [✓ 60¢ - 40¢ = ___] 40¢ - 60¢ = ___ ___ - 60¢ = 40¢

MATHEMATICS INVENTORY
LEVEL IV CONC. & APPL.
FORM A

Teacher________________

Grade________________

Color Key:
1st____ 2nd____
3rd____ 4th____

## CLASS RECORD OF ITEMS

11 thru 20: Problem Solving

| | | | | | | | | | | | | | | | Interpret Graph | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Fractions ≠ to $\frac{1}{2}$ | 50,000 + 700 + 2= | Least fraction | Place value | Abacus: Place value | Odd numbers | Round; mult. | Ident. fourths | 3,7,11,___ | Function: + 3 | Column Add. | Subt. | Div. | Time: Count min. | Subt. | Div. | Count | Add money | Mult. | Match no. sent. to prob. |
| NAME | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 1. | | | | | | | | | | | | | | | | | | | | |
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# CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
# CONCEPTS AND APPLICATIONS INVENTORY - LEVEL V

## FORM A

DATE________________________ NAME______________________________

**COMPLETE**

① 41, 38, 35, _____

② 50 cm = _____m

③ Write the Roman numeral for 16. ___________

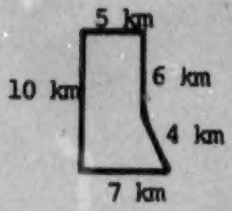
④ Write the standard numeral for seventy thousand eighty. ____________

⑤ Round 893 to the nearest hundred. ___________

⑥ How many hours from 8:00 a.m. to 10:00 p.m.? __________hr.

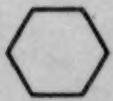
**PUT AN X ON THE RIGHT ANSWER.**

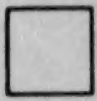
⑦ What is the perimeter of the figure at the right?

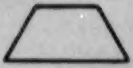


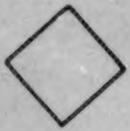
22 km 30 km 32 km 34 km

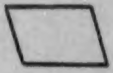
⑧ Put an X on all the parallelograms.











⑨ What is the greatest common factor of 8 and 14? 2 4 56 112

⑩ Which is the greatest? $\frac{2}{3}$ $\frac{5}{6}$ $\frac{1}{2}$ $\frac{1}{8}$

**CONTINUE ON THE OTHER SIDE**

## CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
## CONCEPTS AND APPLICATIONS INVENTORY - LEVEL V (cont.)

FORM A

NAME________________________

FIND EACH ANSWER. YOU MAY USE THE BACK OF THIS SHEET OR SCRATCH PAPER FOR YOUR WORK. BE SURE TO WRITE THE ANSWER ON EACH LINE.

---

⑪ There are 864 cans of juice with 6 cans in a case.

How many cases?

________

⑫ Juan ate $\frac{1}{4}$ of a pizza; Teresa ate $\frac{1}{2}$ of it.

How much did they both eat?

________

⑬ Dave ran a race in 11.03 seconds. Bill ran it in 10.01 seconds.

How much longer did it take Dave?

________seconds

⑭ A parking lot collected $183.50, $129.70, $234.65 and $385.00 in 4 days.

How much money is this in all?

________

⑮ 375 people paid 50¢ each to watch fireworks.

How much money is this in all?

________

⑯ Sue claps 10 times in 5 seconds.

At this rate, how many times will she clap in 15 seconds?

________

⑰ There are 234 swimmers with 18 in each class.

How many classes?

________

⑱ Jerry worked on his train set for 2 hours and on his model airplane for $1\frac{1}{2}$ hours.

How much longer did he work on the train set?

________hr.

⑲ Last month 1,038 children ate lunch at school. This month 949 ate at school.

How many more ate at school last month?

________

⑳ Steve must work 8 hours. He has already worked 3 hours.

What fraction of the total has he worked?

________

# CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
## CONCEPTS AND APPLICATIONS INVENTORY - LEVEL V

DATE ______________ FORM A NAME Answer Key

**COMPLETE**

① 41, 38, 35, 32

② 50 cm = .5 m
or .50 or $\frac{1}{2}$

③ Write the Roman numeral for 16. XVI

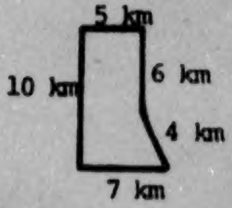
④ Write the standard numeral for seventy thousand eighty. 70080 or 70,080

⑤ Round 893 to the nearest hundred. 900

⑥ How many hours from 8:00 a.m. to 10:00 p.m.? 14 hr.

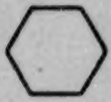
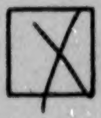
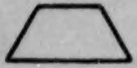
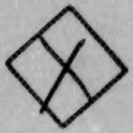
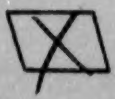
**PUT AN X ON THE RIGHT ANSWER.**

⑦ What is the perimeter of the figure at the right?



22 km   30 km   [✓ 32 km]   34 km

⑧ Put an X on all the parallelograms.

⑨ What is the greatest common factor of 8 and 14? [✓ 2]   4   56   112

⑩ Which is the greatest? $\frac{2}{3}$   [✓ $\frac{5}{6}$]   $\frac{1}{2}$   $\frac{1}{8}$

CONTINUE ON THE OTHER SIDE

# CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
## CONCEPTS AND APPLICATIONS INVENTORY - LEVEL V (cont.)

FORM A NAME Answer Key

FIND EACH ANSWER. YOU MAY USE THE BACK OF THIS SHEET OR SCRATCH PAPER FOR YOUR WORK. BE SURE TO WRITE THE ANSWER ON EACH LINE.

⑪ There are 864 cans of juice with 6 cans in a case.

How many cases? 144

⑫ Juan ate $\frac{1}{4}$ of a pizza; Teresa ate $\frac{1}{2}$ of it.

How much did they both eat? $\frac{3}{4}$

⑬ Dave ran a race in 11.03 seconds. Bill ran it in 10.01 seconds.

How much longer did it take Dave? 1.02 seconds

⑭ A parking lot collected \$183.50, \$129.70, \$234.65 and \$385.00 in 4 days.

How much money is this in all? \$ 932.85

⑮ 375 people paid 50¢ each to watch fireworks.

How much money is this in all? \$ 187.50

⑯ Sue claps 10 times in 5 seconds.

At this rate, how many times will she clap in 15 seconds? 30

⑰ There are 234 swimmers with 18 in each class.

How many classes? 13

⑱ Jerry worked on his train set for 2 hours and on his model airplane for $1\frac{1}{2}$ hours.

How much longer did he work on the train set? $\frac{1}{2}$ hr.

⑲ Last month 1,038 children ate lunch at school. This month 949 ate at school.

How many more ate at school last month? 89

⑳ Steve must work 8 hours. He has already worked 3 hours.

What fraction of the total has he worked? $\frac{3}{8}$

# CLASS RECORD OF ITEMS

MATHEMATICS INVENTORY
LEVEL V CONC. & APPL.
FORM A

Teacher______________

Grade______________

Color Key:
1st____ 2nd____
3rd____ 4th____

11 thru 20: Problem Solving

|  | 41,38,35,___ | 50 cm = ___ m | Roman numeral XVI | Ident. seventy thousand eighty | Round | Time: no. of hours | Perimeter | Ident. parallelograms | GCF of 8 & 14 | Greatest fraction | Div. whole nos. | Add unlike fractions | Subt. decimals | Column add. (money) | Mult. money | Proportion | Div. whole nos. | Subt. mixed numerals | Subt. | Find fract. of total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NAME | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 1. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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CVCSD/A161(97)6-77

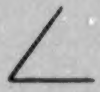
# CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
# CONCEPTS AND APPLICATIONS INVENTORY - LEVEL VI
## FORM A

DATE_______________________ NAME_________________________________

PUT AN X ON THE RIGHT ANSWER(S).

① Which is greatest? 0.4 0.14 0.040 0.398

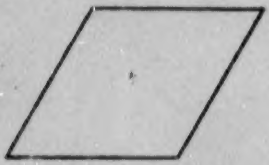
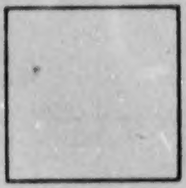
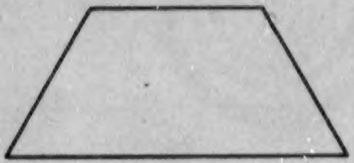
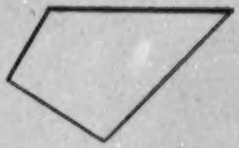
② Angle A is what kind of angle?



acute obtuse right left

③ Which symbol makes this sentence true: 16 ○ 1 + 16? = < > +

④ Put an X on all the quadrilaterals.

⑤ Which equals $\frac{53}{6}$ ? $5\frac{3}{6}$ $8\frac{5}{6}$ $53 - \frac{1}{6}$ $9\frac{1}{6}$

⑥ There are 16 shelves. Each has 12 boxes on it. Each box holds 32 games. Which sentence tells how many games are on the shelves?

| | | | |
|---|---|---|---|
| (16 x 12) + (16 x 32)=___ | 16 x 12 x 32 =___ | 16 x 12 + 32 =___ | (32 x 12) + 16=___ |

⑦ What is the percent form for $\frac{1}{25}$ ? 25% .4% 4% .04%

⑧ Another name for $2^3$ is: 2 x 2 x 2 2 x 2 2 x 3 2 + 2 + 2

⑨ Joe, Mary, Fred and Linda line up in single file. What is the probability that Mary is first?

$\frac{1}{2}$ $\frac{1}{3}$ $\frac{1}{4}$ $\frac{2}{4}$

⑩ If two different lines intersect, their intersection is a (an):

point line segment straight line angle

CONTINUE ON THE OTHER SIDE

# CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
## CONCEPTS AND APPLICATIONS INVENTORY - LEVEL VI (cont.)

FORM A NAME______________________

FIND EACH ANSWER. YOU MAY USE THE BACK OF THIS SHEET OR SCRATCH PAPER FOR YOUR WORK. BE SURE TO WRITE THE ANSWER ON EACH LINE.

---

⑪ The Girl Scouts sold 93 Christmas trees for $5.50 each. How much money did they get in all?

______________

⑫ In a class of 36 pupils the ratio of girls to boys is 2 to 1. How many boys are in the class?

______________

⑬ Mike earns $1.50 per hour. One week he worked 4 hours each day, Monday through Friday. How much did he earn that week?

______________

⑭ A toy locomotive is .3 meters long. The real locomotive is 48 times as long. How many meters long is the real locomotive?

______________meters

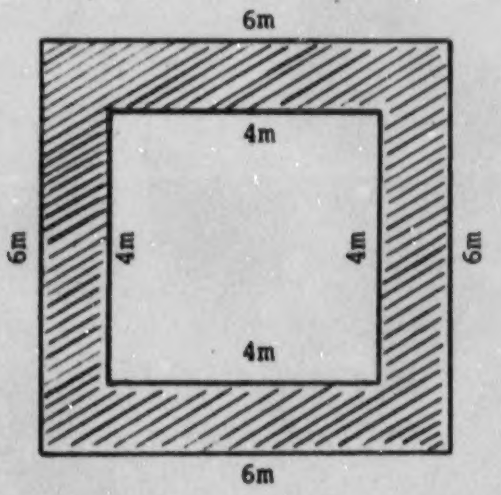
⑮ If a plane flew at the rate of 800 miles in 2 hours how far would it fly in 8 hours?

__________miles

⑯ If Jim gets $\frac{1}{3}$ and Abby gets $\frac{1}{2}$ of a large candy bar, how much is left? ______________

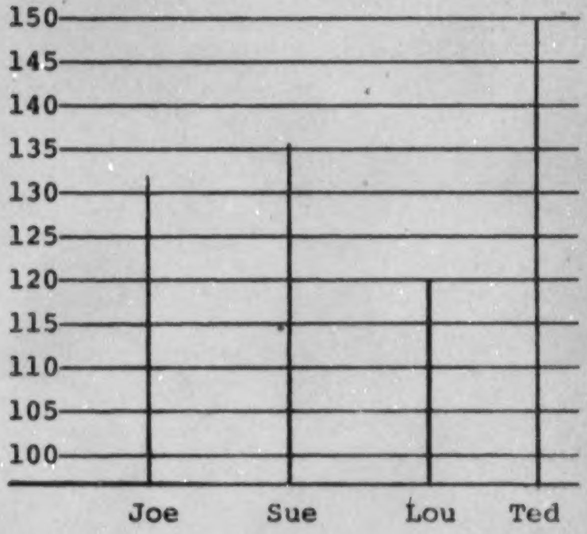
⑰ The Garcias spent $412.32 during their 8-day vacation. What was the average cost per day? ______________

⑱ Find the area of the shaded region.



Area: __________ $m^2$

This graph shows the height in centimeters (cm) of four children.



⑲ Who is nearest to 135 cm tall?

______________

⑳ What is the average height of Lou and Ted?

______________cm

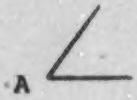
# CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
# CONCEPTS AND APPLICATIONS INVENTORY - LEVEL VI
## FORM A

DATE ____________________ NAME Answer Key

**PUT AN X ON THE RIGHT ANSWER(S).**

(1) Which is greatest? [✓ 0.4] 0.14 0.040 0.398

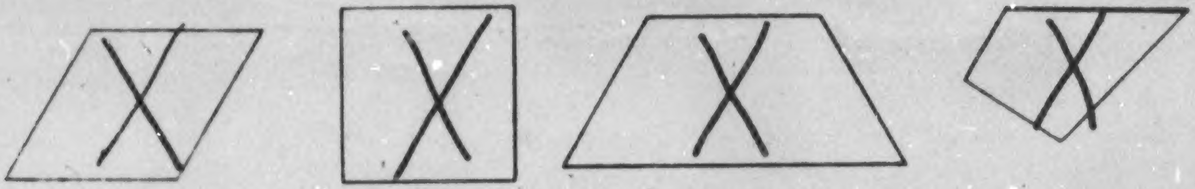
(2) Angle A is what kind of angle?



[✓ acute] obtuse right left

(3) Which symbol makes this sentence true: 16 ○ 1 + 16? = [✓ <] > +

(4) Put an X on all the quadrilaterals.



(5) Which equals $\frac{53}{6}$ ? $5\frac{3}{6}$ [✓ $8\frac{5}{6}$] $53 - \frac{1}{6}$ $9\frac{1}{6}$

(6) There are 16 shelves. Each has 12 boxes on it. Each box holds 32 games. Which sentence tells how many games are on the shelves?

$(16 \times 12) + (16 \times 32) = \_\_\_$ [✓ $16 \times 12 \times 32 = \_\_\_$] $16 \times 12 + 32 = \_\_\_$ $(32 \times 12) + 16 = \_\_\_$

(7) What is the percent form for $\frac{1}{25}$ ? 25% .4% [✓ 4%] .04%

(8) Another name for $2^3$ is: [✓ 2 x 2 x 2] 2 x 2 2 x 3 2 + 2 + 2

(9) Joe, Mary, Fred and Linda line up in single file. What is the probability that Mary is first?

$\frac{1}{2}$ $\frac{1}{3}$ [✓ $\frac{1}{4}$] $\frac{2}{4}$

(10) If two different lines intersect, their intersection is a (an):

[✓ point] line segment straight line angle

CONTINUE ON THE OTHER SIDE

614

## CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
## CONCEPTS AND APPLICATIONS INVENTORY - LEVEL VI FORM A (cont.)

NAME ____________________

FIND EACH ANSWER. YOU MAY USE THE BACK OF THIS SHEET OR SCRATCH PAPER FOR YOUR WORK. BE SURE TO WRITE THE ANSWER ON EACH LINE.

⑪ The Girl Scouts sold 93 Christmas trees for $5.50 each. How much money did they get in all? $511.50

⑫ In a class of 36 pupils the ratio of girls to boys is 2 to 1. How many boys are in the class? 12

⑬ Mike earns $1.50 per hour. One week he worked 4 hours each day, Monday through Friday. How much did he earn that week? $30.00

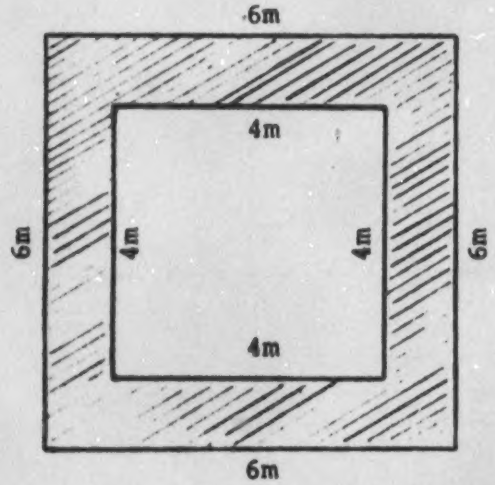
⑭ A toy locomotive is .3 meters long. The real locomotive is 48 times as long. How many meters long is the real locomotive? 14.4 meters

⑮ If a plane flew at the rate of 800 miles in 2 hours how far would it fly in 8 hours? 3200 miles

⑯ If Jim gets $\frac{1}{3}$ and Abby gets $\frac{1}{2}$ of a large candy bar, how much is left? $\frac{1}{6}$

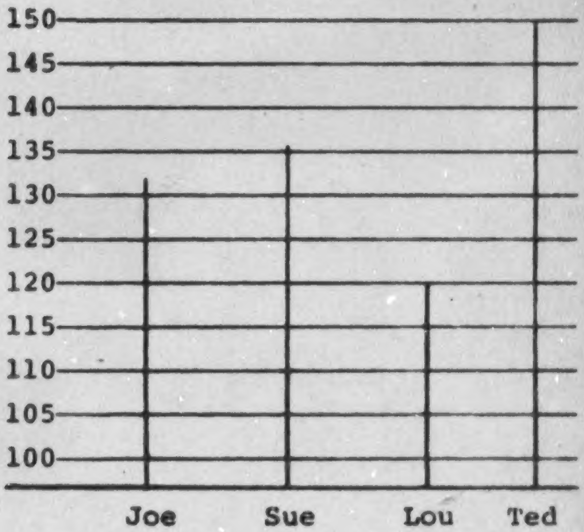
⑰ The Garcias spent $412.32 during their 8-day vacation. What was the average cost per day? $51.54

⑱ Find the area of the shaded region.



Area: 20 $m^2$

This graph shows the height in centimeters (cm) of four children.



⑲ Who is nearest to 135 cm tall? Sue

⑳ What is the average height of Lou and Ted? 135 cm

MATHEMATICS INVENTORY
LEVEL VI CONC. & APPL.
FORM A
Teacher ____________
Grade ____________

Color Key:
1st____ 2nd____
3rd____ 4th____

# CLASS RECORD OF ITEMS

11 thru 20: Problem Solving

| | Greatest decimal | Acute angle | 16 ○ 1 + 16 | Ident. quadrilaterals | $\frac{53}{6} = \square$ | Prob. Solv.; match no. sent. to prob. | $\frac{1}{25} = \underline{?}$ percent | $2^3 = 2 \times 2 \times 2$ | Probability | Geometry: point | Mult. money | Ratio | 2-step: mult. & mult. | Mult. decimal | Ratio | 2-step: add & subt. fract. | Div. money | 3-step: mult., mult. & subt. | Interpret Graph<br>Round | Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NAME | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 1. | | | | | | | | | | | | | | | | | | | | |
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CVCSD/A161(100)6-77

# CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
# CONCEPTS AND APPLICATIONS INVENTORY - LEVEL VII
## FORM A

DATE____________________ NAME__________________________________

PUT AN X ON THE RIGHT ANSWER(S).

① Make an X on the decimal numeral for twenty and sixty-five thousandths.

20.65 .2065 20.0065 20.065

② Make an X on each pair of ratios that is not a proportion.

$\frac{8}{12}$ $\frac{16}{24}$ | $\frac{7}{21}$ $\frac{10}{30}$ | $\frac{3}{4}$ $\frac{16}{24}$ | $\frac{5}{6}$ $\frac{8}{9}$

③ Make an X on all the prime numbers. 3 12 19 22 37

④ If you toss 2 pennies one time what is the probability of getting 2 heads?

1 $\frac{1}{2}$ $\frac{1}{4}$ $\frac{1}{3}$

⑤ Which is the best buy for the money?

4 cans for 53¢ 5 cans for 72¢ 6 cans for 84¢ 3 cans for 45¢

(6-7) This chart shows the population (number of people living) in the U. S. in given years.

| Year | Population |
|---|---|
| 1800 | 5,308,000 |
| 1820 | 9,638,000 |
| 1840 | 17,069,000 |
| 1860 | 31,444,000 |
| 1880 | 50,156,000 |
| 1900 | 75,995,000 |
| 1920 | 105,710,000 |

⑥ About how many more people lived in the U.S. in 1920 than in 1800?

100,000 1,000,000

100,000,000 110,000,000

1,000,000,000

⑦ During which 20 years shown did the population grow the most?

1800-1820 1840-1860

1860-1880 1880-1900 1900-1920

COMPLETE

⑧ Write the standard numeral for one hundred ninety million, eight thousand thirty.

______________________________

⑨ Round 187,792 to the nearest hundred. __________________________

⑩ What is the prime factorization of 54?__________________________

CONTINUE ON THE OTHER SIDE

# CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
# CONCEPTS AND APPLICATIONS INVENTORY - LEVEL VII (cont.)
FORM A

NAME________________________

FIND EACH ANSWER. YOU MAY USE THE BACK OF THIS SHEET OR SCRATCH PAPER FOR YOUR WORK. BE SURE TO WRITE THE ANSWER ON EACH LINE.

⑪ A model of a building is 15 centimeters long and 20 centimeters high. The actual building is 36 meters long. What is the actual building's height?

_____________ meters

⑫ There are 102,081 registered German shepherds and 20,123 registered collies. There are about how many times as many German shepherds as collies?

__________

⑬ Joe gets a 15% discount. How much would he pay for a bike that regularly sells for $120? (Note: Don't include sales tax.)

__________

⑭ If a dog's body contains 5 pints of blood and 80% of the blood is water, how many pints of water are in the blood?

_____________ pints

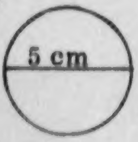
⑮ On a map, the distance between two cities is 8.8 cm. The scale on the map is 2 cm = 5 km. What is the actual distance between the cities?

_____________ km

⑯ During 1975 (a non-leapyear) an airline company spent $10,055,750 for capital improvements. How many dollars per day was that?

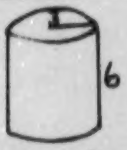
_________________

⑰ What is the area of this circle? Use 3.14 for π. Give the answer to the nearest tenth.



_____________ $cm^2$

⑱ What is the volume of this cylinder? Use 3.14 for π. Give the answer to the nearest square unit.



________ cu. units

(19-20) Twelve students had these scores on a science test

| | | | | | |
|---|---|---|---|---|---|
| 76 | 84 | 90 | 64 | 82 | 72 |
| 84 | 76 | 98 | 88 | 84 | 86 |

⑲ What is the mean score? ___________

⑳ What is the median score? ___________

# CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
# CONCEPTS AND APPLICATIONS INVENTORY - LEVEL VII
FORM A

NAME *Answer Key*

PUT AN X ON THE RIGHT ANSWER(S).

① Make an X on the decimal numeral for twenty and sixty-five thousandths.

20.65 .2065 20.0065 [✓ 20.065]

② Make an X on each pair of ratios that is not a proportion.

$\frac{8}{12}$ $\frac{16}{24}$

$\frac{7}{21}$ $\frac{10}{30}$

[✓ $\frac{3}{4}$ $\frac{16}{24}$]

[✓ $\frac{5}{6}$ $\frac{8}{9}$]

③ Make an X on all the prime numbers. [✓ [illegible]] 12 [✓ [illegible]] 22 [✓ 31]

④ If you toss 2 pennies one time what is the probability of getting 2 heads?

1 $\frac{1}{2}$ [✓ $\frac{1}{4}$] $\frac{1}{3}$

⑤ Which is the best buy for the money?

[✓ 4 cans for 53¢] 5 cans for 72¢ 6 cans for 84¢ 3 cans for 45¢

(6-7) This chart shows the population (number of people living) in the U. S. in given years.

| Year | Population |
|---|---|
| 1800 | 5,308,000 |
| 1820 | 9,638,000 |
| 1840 | 17,069,000 |
| 1860 | 31,444,000 |
| 1880 | 50,156,000 |
| 1900 | 75,995,000 |
| 1920 | 105,710,000 |

⑥ About how many more people lived in the U.S. in 1920 than in 1800?

100,000 1,000,000

[✓ 100,000,000] 110,000,000

1,000,000,000

⑦ During which 20 years shown did the population grow the most?

1800-1820 1840-1860

1860-1880 1880-1900 [✓ 1900-1920]

COMPLETE

⑧ Write the standard numeral for one hundred ninety million, eight thousand thirty.

*190,008,030*

⑨ Round 187,792 to the nearest hundred. *187,800*

⑩ What is the prime factorization of 54? *2 x 3 x 3 x 3*

CONTINUE ON THE OTHER SIDE

CVCSD/A161(102A)6-77

## CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
## CONCEPTS AND APPLICATIONS INVENTORY - LEVEL VII FORM A (cont.)

NAME ____________________

FIND EACH ANSWER. YOU MAY USE THE BACK OF THIS SHEET OR SCRATCH PAPER FOR YOUR WORK. BE SURE TO WRITE THE ANSWER ON EACH LINE.

⑪ A model of a building is 15 centimeters long and 20 centimeters high. The actual building is 36 meters long. What is the actual building's height? 48 meters

⑫ There are 102,081 registered German shepherds and 20,123 registered collies. There are about how many times as many German shepherds as collies? 5

⑬ Joe gets a 15% discount. How much would he pay for a bike that regularly sells for $120? (Note: Don't include sales tax.) $102

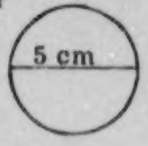
or $102.00

⑭ If a dog's body contains 5 pints of blood and 80% of the blood is water, how many pints of water are in the blood? 4 pints

⑮ On a map, the distance between two cities is 8.8 cm. The scale on the map is 2 cm = 5 km. What is the actual distance between the cities? 22 km

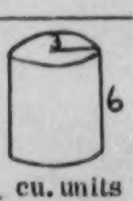
⑯ During 1975 (a non-leapyear) an airline company spent $10,055,750 for capital improvements. How many dollars per day was that? $27,550

⑰ What is the area of this circle? Use 3.14 for π. Give the answer to the nearest tenth.



19.6 $cm^2$

⑱ What is the volume of this cylinder? Use 3.14 for π. Give the answer to the nearest square unit.



170 cu. units

(19-20) Twelve students had these scores on a science test

| | | | | | |
|---|---|---|---|---|---|
| 76 | 84 | 90 | 64 | 82 | 72 |
| 84 | 76 | 98 | 88 | 84 | 86 |

⑲ What is the mean score? 82

⑳ What is the median score? 84

# CLASS RECORD OF ITEMS

MATHEMATICS INVENTORY
LEVEL VII, CONC. & APPL.
FORM A

Teacher________________

Grade__________________

Color Key:
1st____ 2nd____
3rd____ 4th____

11 thru 20: Problem Solving

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Interpret Graph | | | | | | | | | | | | | Statistics | |
| | Ident. 20.065 (words) | Pr. of ratios ≠ proportions | Ident. prime numbers | Probability | Best buy (money) | Round & subt. (mil.) | Round, subt. & select | Write stand. numeral (mil.) | Round to nearest hund. | Prime factor-ization of 54 | Proportion | 2-step: round & div. | 2-step: Percent. & subt. | Percentage | Proportion (measurement) | Div. (money) | Area of circle & round | Vol. of cylinder & round | Find mean (2-step) | Find median (2-step) |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
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CVCSD/A161(10)16-77

## CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
## CLASS LIST FOR DIAGNOSTIC MATHEMATICS INVENTORIES - INSTRUCTIONAL LEVELS FORM I

Teacher____________ Grade____ Color Key: 1st___ 2nd___ 3rd___ 4th___

| NAME | Kdg | I | | II | | III | | IV | | V | | VI | | VII | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | C&A | Comp | C&A | Comp | C&A | Comp | C&A | Comp | C&A | Comp | C&A | Comp | C&A | Comp |
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CVCSD/A161(104A)6-77

## CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM

## CLASS LIST FOR DIAGNOSTIC MATHEMATICS INVENTORIES - INSTRUCTIONAL LEVELS FORM II

Teacher______________Grade_____ Color Key: 1st___2nd___3rd___4th___

| NAME | | Kdg. | I | II | III | IV | V | VI | VII |
|---|---|---|---|---|---|---|---|---|---|
| 1. | Conc.& Appl. | | | | | | | | |
| | Computation | | | | | | | | |
| 2. | Conc.& Appl. | | | | | | | | |
| | Computation | | | | | | | | |
| 3. | Conc.& Appl. | | | | | | | | |
| | Computation | | | | | | | | |
| 4. | Conc.& Appl. | | | | | | | | |
| | Computation | | | | | | | | |
| 5. | Conc.& Appl. | | | | | | | | |
| | Computation | | | | | | | | |
| 6. | Conc.& Appl. | | | | | | | | |
| | Computation | | | | | | | | |
| 7. | Conc.& Appl. | | | | | | | | |
| | Computation | | | | | | | | |
| 8. | Conc.& Appl. | | | | | | | | |
| | Computation | | | | | | | | |
| 9. | Conc.& Appl. | | | | | | | | |
| | Computation | | | | | | | | |
| 10. | Conc.& Appl. | | | | | | | | |
| | Computation | | | | | | | | |
| 11. | Conc.& Appl. | | | | | | | | |
| | Computation | | | | | | | | |
| 12. | Conc.& Appl. | | | | | | | | |
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| 13. | Conc.& Appl. | | | | | | | | |
| | Computation | | | | | | | | |
| 14. | Conc.& Appl. | | | | | | | | |
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| 15. | Conc.& Appl. | | | | | | | | |
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| 17. | Conc.& Appl. | | | | | | | | |
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| 35. | Conc.& Appl. | | | | | | | | |
| | Computation | | | | | | | | |
| 36. | Conc.& Appl. | | | | | | | | |
| | Computation | | | | | | | | |
| 37. | Conc.& Appl. | | | | | | | | |
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CVCSD/A161(104B)6-77

Type of Test____________

Level________________

Teacher______________

Grade________________

Color Key:
1st____ 2nd____
3rd____ 4th____

# MATHEMATICS INVENTORY CLASS RECORD OF GROWTH

20 Items
Use with Kindergarten Inventory,
Level I Computation Inventory and
Level I-VII Concepts and Application Inventories

*Draw a line through the number of spaces to show how many items correct for each testing period. (Note: If pupil regresses make line below previous line as needed.)*

*Passing" has been interpreted by the Rosebank Project to mean successfully completing at least 80% of the items. This is only a guideline. Teachers and staffs may decide their own goals.*

| NAME | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
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CVCSD/A161(105)6-77

Computation, Level____
Teacher________________
Grade__________________

Color Key:
1st____ 2nd____
3rd____ 4th____

# MATHEMATICS INVENTORY
# CLASS RECORD OF GROWTH

25 Items

Use with Level II-VII
Computation Inventories

*Draw a line through the number of spaces to show how many items correct for each testing period. (Note: If pupil regresses, make line below previous line as needed.) "Passing" has been interpreted by the Rosebank Project to mean successfully completing at least 80% of the items. This is only a guideline. Teachers and staffs may decide their own goals.*

| NAME | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
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| 27. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 28. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 29. | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30. | | | | | | | | | | | | | | | | | | | | | | | | | |

PASSING

CVCSD/A161(106)6-77

COMPUTATION, LEVELS I - III

# INDIVIDUAL CUMULATIVE MATHEMATICS RECORD

Chula Vista Diagnostic Mathematics Program

NAME________________________

Teacher: 1._____ 2._____ 3._____

*Circled numerals refer to Kennedy Kit Card*
** No Kennedy Kit Card Reference*

## Level I

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ① | ② | ③ | ④ | ⑥ | (111) | * | (112) | ⑦ | ⑧ | * | ㉙ | ㉚ | (118) | * | (119) | ㉛ | ㉜ | ㉞ | ㉟ |
| 2<br>+4 | 7<br>+3 | 9<br>+2 | 8<br>+4 | 5<br>1<br>+2 | 4 + 3 = □ | 16 + 3 = □ | 6 + □ = 7 | 37<br>+ 2 | 40<br>+10 | 52<br>+33 | 8<br>-2 | 10<br>- 4 | 9 - 5 = □ | 15 - 5 = □ | 8 - □ = 4 | 11<br>- 7 | 12<br>- 3 | 35<br>- 2 | 86<br>-15 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |

## Level II

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ⑤ | ⑨ | ⑩ | ⑩ | ⑫ | ⑬ | (114) | (112) | (113) | (121) | (119) | (120) | ㉝ | ㉝ | ㊱ | ㊲ | ㊲ | ㊴ | ㊵ | ㊵ | (54)<br>(56) | (55)<br>(56) | (55) | (115) | (122) |
| 8<br>+5 | 23<br>+9 | 55<br>+37 | 66<br>+85 | 345<br>+604<br>↑ | 729<br>+122 | 9 + 6 = □ | 5 + □ = 12 | □ + 8 = 11 | 16 - 7 = □ | 12 - □ = 3 | □ - 4 = 4 | 14<br>-6 | 15<br>-8 | 74<br>-9 | 42<br>-16 | 93<br>-48 | 658<br>-502 | 536<br>-318<br>↑ | 874<br>-325 | 3<br>x2 | 5<br>x3 | 5 x 5 = □ | 5 + 4 ○ 7 + 3 | 10 - 3 ○ 11 - 4 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |

## Level III

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ⑪ | ⑭ | ⑮<br>⑱ | ⑯ | ㊳ | ㊵ | ㊶ | ㊷ | (67) | (70) | (71) | (73) | (134) | (57)<br>(135) | (63) | (140) | (141) | (94) | (95) | (96) | (98) | (116) | (123) | (137) | (143) |
| 64<br>28<br>+17 | 578<br>+251<br>↑ | $2.91<br>+4.39 | 4283<br>+4057<br>↑ | $6.58<br>-2.39 | 762<br>-208<br>↑ | 965<br>-478 | 3401<br>-1869<br>↑ | 400<br>x 2 | 85<br>x5 | 143<br>x 2<br>↑ | 563<br>x 7 | 8 x 6 = □ | 9 x □ = 0 | 6 x 10 = □ | 63 ÷ 9 = □ | 42 ÷ □ = 7 | 8)56 | 4)18 | 3)219 | 7)292 | 7 + 6 ○ 6 + 7 | 15 - 7 ○ 18 - 9 | 4 x 9 ○ 7 x 5 | 36 ÷ 6 ○ 54 ÷ 9 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |

CVCSD/A161(107A)6-77

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63 F

85

COMPUTATION, LEVELS IV - VI

**INDIVIDUAL CUMULATIVE MATHEMATICS RECORD**

Chula Vista Diagnostic Mathematics Program

*Circled numerals refer to Kennedy Kit Card*

** No Kennedy Kit Card Reference*

NAME ____________________

Teacher: 4. _____ 5. _____ 6. _____

## Level IV

| | Card | Problem |
|---|---|---|
| 1 | ⑯ | $3685 + 4237$ |
| 2 | ⑰ | $36051 + 4719 + 25634$ |
| 3 | ㊶ | $906 - 358$ |
| 4 | ㊷ | $4273 - 1865$ |
| 5 | ⑲ | $\frac{3}{8} + \frac{1}{8} = \square$ |
| 6 | ㉑ | $\frac{5}{6} + \frac{5}{6}$ |
| 7 | ⑳<br>㉓ | $2\frac{1}{3} + \frac{2}{3}$ |
| 8 | ㉕ | $\frac{1}{2} + \frac{1}{3}$ |
| 9 | ㊸ | $\frac{3}{8} - \frac{1}{8} = \square$ |
| 10 | ㊺ | $\frac{7}{5} - \frac{2}{5} = \square$ |
| 11 | ㊻ | $7\frac{5}{6} - 2\frac{1}{6}$ |
| 12 | ㊾ | $\frac{3}{4} - \frac{1}{2}$ |
| 13 | (74) | $31 \times 90$ |
| 14 | (76) | $87 \times 64$ |
| 15 | (78) | $403 \times 75$ |
| 16 | (79) | $\$35.76 \times 8$ |
| 17 | (80) | $\$9.43 \times 23$ |
| 18 | (81) | $8526 \times 4$ |
| 19 | (83) | $6 \times \frac{1}{5} = \square$ |
| 20 | (98) | $5\overline{)97}$ |
| 21 | (99) | $6\overline{)803}$ |
| 22 | (100) | $54\overline{)673}$ |
| 23 | (102) | $78\overline{)3781}$ |
| 24 | (143) | $72 \div 9$ ○ $48 \div 6$ |
| 25 | (144) | $(3x9)+3$ ○ $(6x5)+1$ |

## Level V

| | Card | Problem |
|---|---|---|
| 1 | ⑰ | $3492 + 765 + 14801$ |
| 2 | * | $625+347=\square$ |
| 3 | ㊶ | $823 - 198$ |
| 4 | ㊷ | $9205 - 8307$ |
| 5 | ㉔ | $2\frac{3}{8} + 2\frac{7}{8}$ |
| 6 | ㉖ | $\frac{3}{4} + \frac{2}{3}$ |
| 7 | ㉗ | $2\frac{1}{2} + 3\frac{3}{10}$ |
| 8 | ㊹ | $\frac{5}{6} - \frac{1}{6} = \square$ |
| 9 | ㊽ | $9\frac{1}{3} - 6\frac{2}{3}$ |
| 10 | (51) | $5\frac{1}{2} - 4\frac{3}{4}$ |
| 11 | ㉘ | $1.5+3.5=\square$ |
| 12 | ㉘ | $26.37 + 41.47$ |
| 13 | (52) | |
| 14 | (53) | $83.62 - 21.82$ |
| 15 | (77) | $600 \times 40$ |
| 16 | (82) | $7543 \times 201$ |
| 17 | (84) | $\frac{2}{3}$ of $6 = \square$ |
| 18 | (85) | $\frac{1}{2} \times \frac{1}{5} = \square$ |
| 19 | (87) | $\frac{3}{4} \times \frac{2}{5} = \square$ |
| 20 | (99) | $133 \quad 4 = \square$ |
| 21 | (101) | $57\overline{)509}$ |
| 22 | (104) | $24\overline{)\$16.08}$ |
| 23 | (105) | $33\overline{)66375}$ |
| 24 | * | $.5$ ○ $.49$ |
| 25 | * | $\frac{1}{5}$ ○ $\frac{3}{10}$ |

## Level VI

| | Card | Problem |
|---|---|---|
| 1 | * | $65+5+90=\square$ |
| 2 | ㊷ | $80503 - 26947$ |
| 3 | ㉗ | $7\frac{3}{4} + 2\frac{1}{2}$ |
| 4 | ㊼ | $8 - 2\frac{2}{5}$ |
| 5 | (51) | $6\frac{1}{3} - 4\frac{5}{6}$ |
| 6 | ㉘ | $65.326 + 8.014$ |
| 7 | (53) | $76.925 - 15.041$ |
| 8 | (82) | $6093 \times 415$ |
| 9 | (88) | $4 \times 3\frac{3}{5} = \square$ |
| 10 | (89) | $2\frac{2}{3} \times 3\frac{3}{4} = \square$ |
| 11 | (90) | $9.04 \times 7$ |
| 12 | * | $.02 \times 3$ |
| 13 | * | $1.2 \times .8 = \square$ |
| 14 | * | $.37 \times .19$ |
| 15 | (103) | $8\overline{)90027}$ |
| 16 | (106) | $\frac{3}{4} \div \frac{1}{2} = \square$ |
| 17 | (107) | $\frac{5}{6} \div 2 = \square$ |
| 18 | (108) | $2\frac{1}{2} \div 3\frac{1}{3} = \square$ |
| 19 | (109) | $6\overline{)4.38}$ |
| 20 | (145) | $.4\overline{)1.6}$ |
| 21 | (145) | $.7\overline{)49}$ |
| 22 | (146) | $1.5\overline{)4.5}$ |
| 23 | (146) | $.02\overline{).5}$ |
| 24 | (144) | $6x3$ ○ $6x(9-6)$ |
| 25 | * | $41 \div 6$ ○ $36 \div 7$ |

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CONCEPT APPLICATIONS, LEVELS K - III                INDIVIDUAL CUMULATIVE MATHEMATICS RECORD

NAME________________________                Chula Vista Diagnostic Mathematics Program

Teacher: Kgn.______1.______2.______3.______

## Kindergarten

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Problem Solving | | | | | | | Problem Solving | | Identify Numeral | | |
| Ident.& complete pattern | Match set members | Ident. set with most | Match set of 6 to numeral | Ident. coin worth most (dime) | Ident. set 1 less than 5 | Ident. set 1 more than 2 | Match set to numeral (10) | Add | Add | Ident. picture with △ | Ident. greatest numeral | Ident. least numeral | Ident. counting order (1-4) | Ident. counting order (11-13) | Subt. | Subt. | Between | After | Before |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |

## Level I

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | 16 thru 20: Problem Solving | | | | |
| Count 3 | Count 8 | Count 14 | 4,5,6,___ | 17,18,19,___ | 7,___,9 | 28,29,___ | ___,55,56 | Ident. 16 | Ident. minus sign | Ident. one's place | Count coins (17¢) | Ident. hour (4:00) | Greatest number | Least number | Add | Add | Subt. | Subt. | Missing sum (Subt.) |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |

## Level II

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | 11 thru 20: Problem Solving | | | | | | | | | |
| | | | | | | | | | | Interpret Graph | | | | | Tell Time | | | | |
| Greatest 3-digit numeral | 198,199,___ | ___,120,121 | Count money (coins) | Count tens & ones | Ident. 2-digit numeral | One less than 120 | Ident. one hundred eight | Count by 2's | Odd number | most | more | fewer | Add | Add | Half hour | Subt. | Subt. | Subt. money | Subt. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |

## Level III

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | 11 thru 20: Problem Solving | | | | | | | | | |
| 997,998,999,___ | 11,9,7,___ | Sets of 2 in 6 | Roman Numeral IV | Ident. hundred's place | Odd number | Names for 7 | Ident. six thousand two | Number line (whole nos.) | Number line (halves) | Add 3 numbers | Add 2 numbers | Subt. | Div. | Subt. | Add or mult. | 2-step: div.& div. | Mult. | Subt. | 2-step: mult.& subt. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |

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CONCEPTS & APPLICATIONS, LEVELS IV - VII

INDIVIDUAL CUMULATIVE MATHEMATICS RECORD

Chula Vista Diagnostic Mathematics Program

NAME ______________________

Teacher: 4.____ 5.____ 6.____ 7.____

**Level IV**

11 thru 20: Problem Solving (15–17: Interpret Graph)

| Fractions ≠ to ½ | 50,000 + 700 + 2 = | Least fraction | Place value | Abacus: Place value | Odd numbers | Round; mult. | Ident. fourths | 3,7,11,___ | Function: ÷ 3 | Column Add. | Subt. | Div. | Time: Count min. | Subt. | Div. | Count | Add money | Mult. | Match no. sent. to prob. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |

**Level V**

11 thru 20: Problem Solving

| 41,38,35,___ | 50 cm = ___ m | Roman numeral for 16 | Ident. seventy thousand eighty | Round | Time: no. of hours | Perimeter | Ident. parallelograms | GCF of 8&14 | Greatest fraction | Div. whole nos. | Add unlike fractions | Subt. decimals | Column add. (money) | Mult. money | Proportion | Div. whole Nos. | Subt. mixed numerals | Subt. | Find fract. of total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |

**Level VI**

11 thru 20: Problem Solving (19–20: Interpret Graph)

| Greatest decimal | Acute angle | 16 ◯ 1 + 16 | Ident. quadrilaterals | $\frac{53}{6} = \square$ | Prob. Solv.; match no. sent to prob | $\frac{1}{25} = \frac{?}{\phantom{0}}$ percent | $2^3 = 2x2x2$ | Probability | Geometry: point | Mult. money | Ratio | 2-step: mult.&mult. | Mult. decimal | Ratio | 2-step: add & subt fract. | Div. money | 3-step: mult., & mult. subt. | Round | Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |

**Level VII**

6–7: Interpret Graph; 11 thru 20: Problem Solving; 19–20: Statistics

| Ident. 20.005 (words) | Pr. of ratio ≠proportions | Ident. prime numbers | Probability | Best buy (money) | Round & subt. (mil.) | Round, subt. & select | Write stand. numeral (mil) | Round to nearest hund | Prime factorization of 54 | Proportion | 2-step: round & div. | 2-step: Percent. & Subt. | Percentage | Proportion (measurement) | Div. money | Area of circle & round | Vol. of cylinder & round | Find mean (2-step) | Find median (2-step) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| | | | | | | | | | | | | | | | | | | | |

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COMPUTATION, LEVELS I - III

INDIVIDUAL CUMULATIVE MATHEMATICS RECORD

Chula Vista Diagnostic Mathematics Program

NAME ______________________

Teacher: 1. ____ 2. ____ 3. ____

*Circled numerals refer to Kennedy Kit Card*

* *No Kennedy Kit Card Reference*

**Level I**

| | | |
|---|---|---|
| ① | $2 + 4$ | 1 |
| ② | $7 + 3$ | 2 |
| ③ | $9 + 2$ | 3 |
| ④ | $8 + 4$ | 4 |
| ⑥ | $5 + 1 + 2$ | 5 |
| (111) | $4 + 3 = \square$ | 6 |
| * | $16 + 3 = \square$ | 7 |
| (112) | $6 + \square = 7$ | 8 |
| ⑦ | $37 + 2$ | 9 |
| ⑧ | $40 + 10$ | 10 |
| * | $52 + 33$ | 11 |
| ㉙ | $8 - 2$ | 12 |
| ㉚ | $10 - 4$ | 13 |
| (118) | $9 - 5 = \square$ | 14 |
| * | $15 - 5 = \square$ | 15 |
| (119) | $8 - \square = 4$ | 16 |
| ㉛ | $11 - 7$ | 17 |
| ㉜ | $12 - 3$ | 18 |
| ㉞ | $35 - 2$ | 19 |
| ㉟ | $86 - 15$ | 20 |

**Level II**

| | | |
|---|---|---|
| ⑤ | $8 + 5$ | 1 |
| ⑨ | $23 + 9$ | 2 |
| ⑩ | $55 + 37$ | 3 |
| ⑩ | $66 + 85$ | 4 |
| ⑫ | $345 + 604$ | 5 |
| ⑬ | $729 + 122$ | 6 |
| (114) | $9 + 6 = \square$ | 7 |
| (112) | $5 + \square = 12$ | 8 |
| (113) | $\square + 8 = 11$ | 9 |
| (121) | $16 - 7 = \square$ | 10 |
| (119) | $12 - \square = 3$ | 11 |
| (120) | $\square - 4 = 4$ | 12 |
| ㉝ | $14 - 6$ | 13 |
| ㉝ | $15 - 8$ | 14 |
| ㊱ | $74 - 9$ | 15 |
| ㊲ | $42 - 16$ | 16 |
| ㊲ | $93 - 48$ | 17 |
| ㊴ | $658 - 502$ | 18 |
| ㊵ | $536 - 318$ | 19 |
| ㊵ | $874 - 325$ | 20 |
| (54)<br>(56) | $3 \times 2$ | 21 |
| (55)<br>(56) | $5 \times 3$ | 22 |
| (55) | $5 \times 5 = \square$ | 23 |
| (115) | $5+4 \bigcirc 7+3$ | 24 |
| (122) | $10-3 \bigcirc 11-4$ | 25 |

**Level III**

| | | |
|---|---|---|
| ⑪ | $64 + 28 + 17$ | 1 |
| ⑭ | $578 + 251$ | 2 |
| ⑮<br>⑱ | $\$2.91 + 4.39$ | 3 |
| ⑯ | $4283 + 4057$ | 4 |
| ㊳ | $\$6.58 - 2.39$ | 5 |
| ㊵ | $762 - 208$ | 6 |
| ㊶ | $965 - 478$ | 7 |
| ㊷ | $3401 - 1869$ | 8 |
| (67) | $400 \times 2$ | 9 |
| (70) | $85 \times 5$ | 10 |
| (71) | $143 \times 2$ | 11 |
| (73) | $563 \times 7$ | 12 |
| (134) | $8 \times 6 = \square$ | 13 |
| (57)<br>(135) | $9 \times \square = 0$ | 14 |
| (63) | $6 \times 10 = \square$ | 15 |
| (140) | $63 \div 9 = \square$ | 16 |
| (141) | $42 \div \square = 7$ | 17 |
| (94) | $8\overline{)56}$ | 18 |
| (95) | $4\overline{)18}$ | 19 |
| (96) | $3\overline{)219}$ | 20 |
| (98) | $7\overline{)292}$ | 21 |
| (116) | $7+6 \bigcirc 6+7$ | 22 |
| (123) | $15-7 \bigcirc 18-9$ | 23 |
| (137) | $4 \times 9 \bigcirc 7 \times 5$ | 24 |
| (143) | $36 \div 6 \bigcirc 54 \div 9$ | 25 |

CVCSD/A161(109A)6-77

CONCEPTS & APPLICATIONS, LEVELS K - III

INDIVIDUAL CUMULATIVE MATHEMATICS RECORD

Chula Vista Diagnostic Mathematics Program

NAME______________________________

Teacher: Kgn.______ 1.______ 2.______ 3.______

CVCSD/A161(109B)6-77

**Kindergarten**

| | | | | | | | | Problem Solving | | | | | | | Problem Solving | | Identify Numeral | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ident.& complete pattern | Match set members | Ident. set with most | Match set of 6 to numeral | Ident. coin worth most (dime) | Ident. set 1 less than 5 | Ident. set 1 more than 2 | Match set to numeral (10) | Add | Add | Ident. picture with Δ | Ident. greatest numeral | Ident. least numeral | Ident. counting order (1-4) | Ident. counting order (11-13) | Subt. | Subt. | Between | After | Before |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |

**Level I**

16 thru 20: **Problem Solv.**

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Count 3 | Count 8 | Count 14 | 4,5,6,___ | 17,18,19,___ | 7,___,9 | 28,29,___ | ___,55,56 | Ident. 16 | Ident. minus sign | Ident. one's place | Count coins (17¢) | Ident. hour (4:00) | Greatest number | Least number | Add | Add | Subt. | Subt. | Missing sum (Subt.) |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |

**Level II**

11 thru 20: **Problem Solving**

| | | | | | | | | | | Interpret Graph | | | | | Tell Time | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Greatest 3-digit numeral | 198,199,___ | ___,120,121 | Count money (coins) | Count tens & ones | Ident. 2-digit numeral | One less than 120 | Ident. one hundred eight | Count by 2's | Odd Number | most | more | fewer | Add | Add | Half hour | Subt. | Subt. | Subt. money | Subt. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |

**Level III**

11 thru 20: **Problem Solving**

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 997,998,999,___ | 11,9,7,___ | Sets of 2 in 6 | Roman numeral IV | Ident. hundred's place | Odd number | Names for 7 | Ident. six thousand two | Number line (whole nos.) | Number line (halves) | Add 3 numbers | Add 2 numbers | Subt. | Div. | Subt. | Add or mult. | 2-step: div.&div. | Mult. | Subt. | 2-step: mult.&subt. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |

90

COMPUTAT[illegible]N, LEVELS IV - VI

INDIV[illegible]AL CUMULATIVE MATHEMATICS RECORD

Chula Vista Diagnostic Mathematics Program

NAME ______________________________

Teacher: 4.______5.______6.______

*Circled numerals refer to Kennedy Kit Card*

** No Kennedy Kit Card Reference*

**Level IV**

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ⑯ | ⑰ | ㊶ | ㊷ | ⑲ | ㉑ | ⑳<br>㉓ | ㉕ | ㊸ | ㊺ | ㊻ | ㊾ | (74) | (76) | (78) | (79) | (80) | (81) | (83) | (98) | (99) | (100) | (102) | (143) | (144) |
| 3685<br>+4237 | 36051<br>4719<br>+25634 | 906<br>-358 | 4273<br>-1865 | $\frac{1}{8} + \frac{3}{8} =$ □ | $\frac{5}{6}$<br>$+\frac{5}{6}$ | $2\frac{1}{3}$<br>$+\frac{2}{3}$ | $\frac{1}{2}$<br>$+\frac{1}{3}$ | $\frac{3}{8} - \frac{1}{8} =$ □ | $\frac{7}{5} - \frac{2}{5} =$ □ | $7\frac{5}{6}$<br>$-2\frac{1}{6}$ | $\frac{3}{4}$<br>$-\frac{1}{2}$ | 31<br>x90 | 87<br>x64 | 403<br>x75 | $35.76<br>x 8 | $9.43<br>x 23 | 8526<br>x 4 | $6 \times \frac{1}{5} =$ | 5)97 | 6)803 | 54)673 | 78)3781 | 72 ÷ 9 ○ 48 ÷ 6 | (3x9)+3 ○ (6x5)+1 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| | | | | | | | | | | | | | | | | | | | | | | | | |
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**Level V**

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ⑰ | * | ㊶ | ㊷ | ㉔ | ㉖ | ㉗ | ㊹ | ㊽ | (51) | ㉘ | ㉘ | (52) | (53) | (77) | (82) | (84) | (85) | (87) | (99) | (101) | (104) | (105) | * | * |
| 3492<br>765<br>+14801 | 625 + 347 = □ | 823<br>-198 | 9205<br>-8307 | $2\frac{3}{8}$<br>$+2\frac{7}{8}$ | $\frac{3}{4}$<br>$+\frac{2}{3}$ | $2\frac{1}{2}$<br>$+3\frac{3}{10}$ | $\frac{5}{6} - \frac{1}{6} =$ □ | $9\frac{1}{3}$<br>$-6\frac{2}{3}$ | $5\frac{1}{2}$<br>$-4\frac{3}{4}$ | 1.5 + 3.5 = □ | 26.37<br>+41.47 | 9.7 - 4.4 = □ | 83.62<br>-21.82 | 600<br>x40 | 7543<br>x201 | $\frac{2}{3}$ of 6 = □ | $\frac{1}{2} \times \frac{1}{5} =$ □ | $\frac{3}{4} \times \frac{2}{5} =$ □ | 133 ÷ 4 = □ | 57)509 | 24)$16.08 | 33)66375 | .5 ○ .49 | $\frac{1}{5}$ ○ $\frac{3}{10}$ |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| | | | | | | | | | | | | | | | | | | | | | | | | |
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**Level VI**

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| * | ㊷ | ㉗ | ㊼ | (51) | ㉘ | (53) | (82) | (88) | (89) | (90) | * | * | * | (103) | (106) | (107) | (108) | (109) | (145) | (145) | (146) | (146) | (144) | * |
| 65 + 5 + 90 = □ | 80503<br>-26947 | $7\frac{3}{4}$<br>$+2\frac{1}{2}$ | 8<br>$-2\frac{2}{5}$ | $6\frac{1}{3}$<br>$-4\frac{5}{6}$ | 65.326<br>+8.014 | 76.925<br>-15.041 | 6093<br>x415 | $4 \times 3\frac{3}{5} =$ □ | $2\frac{2}{3} \times 3\frac{3}{4} =$ □ | 9.04<br>x 7 | .02<br>x 3 | 1.2 x .8 = □ | .37<br>x.19 | 8)90027 | $\frac{3}{4} \div \frac{1}{2} =$ □ | $\frac{5}{6} \div 2 =$ □ | $2\frac{1}{2} \div 3\frac{1}{3} =$ □ | 6)4.38 | .4)1.6 | .7)49 | 1.5)4.5 | .02).5 | 6 x 3 ○ 6x(9-6) | 41 ÷ 6 ○ 36 ÷ 7 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |

CVCSD/A161(110A)6-77

91

642

643

CONCEPTS & APPLICATIONS, LEVELS IV - VII

INDIVIDUAL CUMULATIVE MATHEMATICS RECORD

Chula Vista Diagnostic Mathematics Program

NAME________________________________

Teacher: 4.______5.______6.______7.______

| Level IV | | | | | | | | | | | 11 thru 20: Problem Solving | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | Interpret Graph | | | | | |
| | Fractions ≠ to ¼ | 50,000 + 700 + 2 = | Least fraction | Place Value | Abacus: Place Value | Odd numbers | Round; mult. | Ident. fourths | 3,7,11,___ | Function: ÷3 | Column Add. | Subt. | Div. | Time: Count min. | Subt. | Div. | Count | Add money | Mult. | Match no. sent. to prob |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |

| Level V | | | | | | | | | | | 11 thru 20: Problem Solving | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 41,38,35,___ | 50 cm = ___ m | Roman numeral for 16 | Ident. seventy thousand eighty | Round | Time: no. of hours | Perimeter | Ident. parallelograms | GCF of 8 & 14 | Greatest fraction | Div. whole nos. | Add unlike fractions | Subt. decimals | Column add. (money) | Mult. money | Proportion | Div. whole Nos. | Subt. mixed numerals | Subt. | Find fract. of total |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |

| Level VI | | | | | | | | | | | 11 thru 20: Problem Solving | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | | Interpret Graph | |
| | Greatest decimal | Acute angle | 16 ○ 1 + 16 | Ident. quadrilaterals | $\frac{53}{6} = \square$ | Prob. Solv.; match no. sent to prob. | $\frac{1}{25}$ = ___ per cent | $2^3 = 2x2x2$ | Probability | Geometry: point | Mult. money | Ratio | 2-step: mult. & mult. | Mult. decimal | Ratio | 2-step: add subt. fract. | Div. money | 3-step: mult., mult. & subt | Round | Average |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |

| Level VII | | | | | | | | | | | 11 thru 20: Problem Solving | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Interpret Graph | | | | | | | | | | | | | Stastics | |
| | Ident. 20.065 (words) | Pr. of ratios & proportions | Ident. prime numbers | Probability | Best buy (money) | Round & subt. (mil.) | Round, subt. & select | Write stand. numeral (mil) | Round to nearest hund. | Prime factorization of 54 | Proportion | 2-step: round & div. | step: Percent. & Subt. | Percentage | Proportion (measurement) | Div. (money) | Area of circle & round | Vol. of cylinder & round | Find mean (2-step) | Find median (2-step) |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |

CVCSD/A161(110B)6-77

# CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
## SAMPLE COMPLETED RECORD FORMS

The samples of completed record forms on the following pages are suggestions only. They are intended to show one way the group record forms can be used. The samples are the recorded test results (computation inventories only) of a third grade class at the beginning of the year.

Because each inventory measures computation skills developed at that grade level, it is wise to administer inventories at least one level lower than the grade children are in. Therefore, the entire third grade class was given Level II inventory first. The inventories were scored and separated into three groups as follows:

1. Pupils scoring 10 or less correct (40% or lower)
2. Pupils scoring 11-19 correct (more than 40% but less than 80%)
3. Pupils scoring 20 or more correct (80% or higher)

The number of Items successfully completed by all three groups were recorded on Level II Class Record of Growth, page 94. The incorrect responses for each pupil are recorded on the corresponding Level II Class Record of Items which follows on page 95. Note that the group working at Level II (Group 2 above) is listed last so that pupils moving up into the group can easily be added on this same form.

Pupils working at Level II (Group 2 above) need no further testing in computation. Group 1 pupils were given Level I Inventory; Group 3 pupils were given Level III. Level III was determined as the instructional level for 13 pupils. Level I was determined as the instructional level for 3 pupils. Class Records of Growth, pages 96 and 98, and corresponding Class Records of Items, pages 97 and 99, were filled in for pupils placed at these two levels.

The testing procedure was continued in concepts and applications until the instructional levels of all pupils were determined. Class Records of Items and Class Records of Growth for the different levels of concepts and applications were filled in but are not shown as samples in this book. The instructional levels in both computation and concepts and applications of the entire third grade class are shown on the Class List For Diagnostic Inventories - Instructional Levels, Form I, page 100. This form is used for general grouping purposes and also for the establishment of test groups for the next diagnostic testing period.

Note that on the Class Records of Items incorrect responses are recorded. This method generally involves less recording. However, many teachers prefer to record correct responses which enables them to fill in the form when pupils correctly answer an item they previously missed.

Computation, Level II
Teacher Jones
Grade 3
Color Key:
1st ✓ 2nd ___
3rd ___ 4th ___

**Computation First Period**

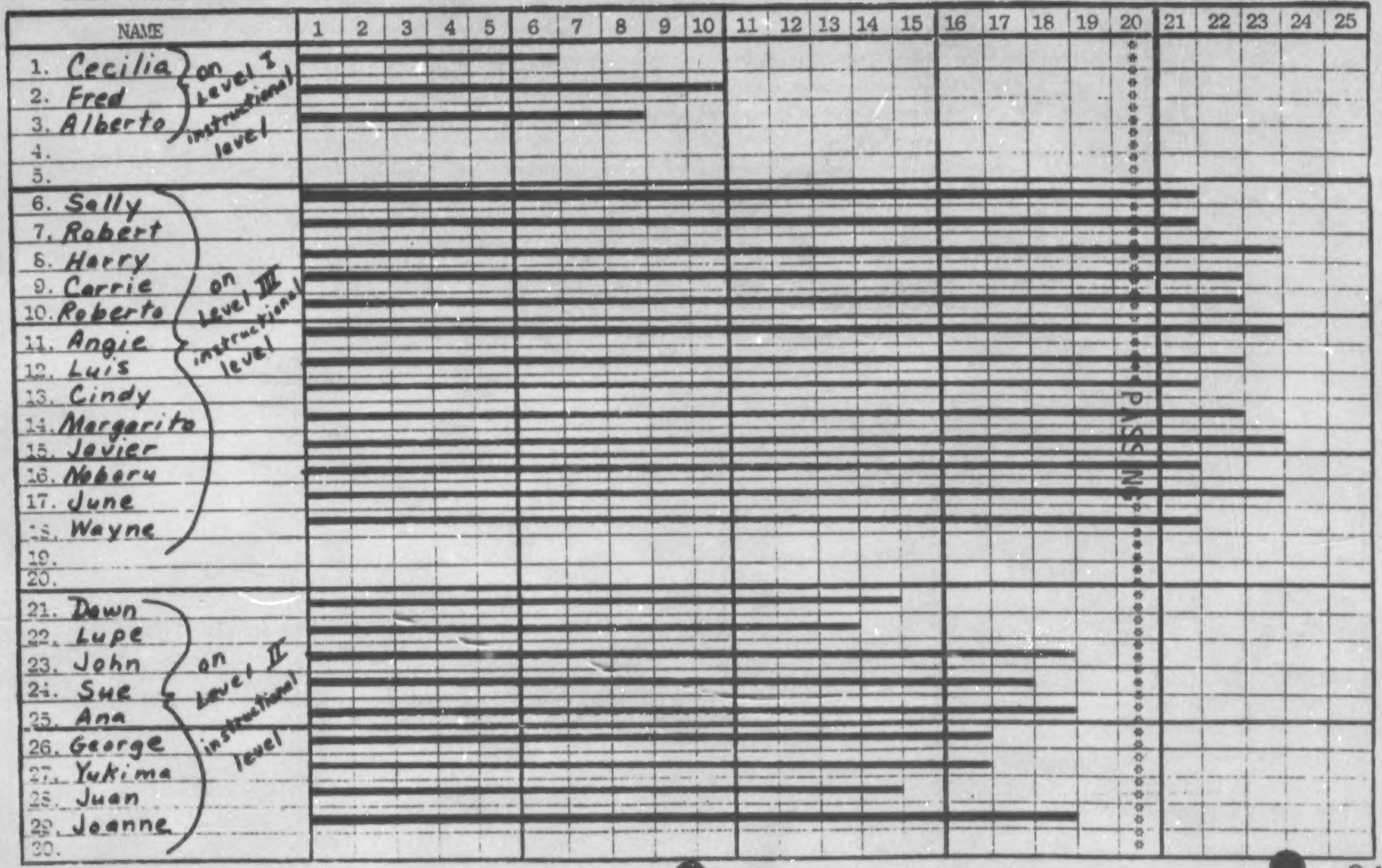
# MATHEMATICS INVENTORY
# CLASS RECORD OF GROWTH

25 Items

**SAMPLE**

Use with Level II-VII
Computation Inventories

*Draw a line through the number of spaces to show how many items correct for each testing period. (Note: If pupil regresses, make line below previous line as needed.) "Passing" has been interpreted by the Rosebank Project to mean successfully completing at least 80% of the items. This is only a guideline. Teachers and staffs may decide their own goals.*



1. Cecilia
2. Fred
3. Alberto
4.
5.

on Level I instructional level

6. Sally
7. Robert
8. Harry
9. Carrie
10. Roberto
11. Angie
12. Luis
13. Cindy
14. Margarito
15. Javier
16. Noboru
17. June
18. Wayne
19.
20.

on Level III instructional level

21. Dawn
22. Lupe
23. John
24. Sue
25. Ana
26. George
27. Yukima
28. Juan
29. Joanne
30.

on Level II instructional level

MATHEMATICS INVENTORY
LEVEL II, COMPUTATION

Teacher Jones

Grade 3

Color Key:
1st ✓ 2nd ___
3rd ___ 4th ___

# CLASS RECORD OF ITEMS

*Circled numerals refer to Kennedy Kit Card*

Incorrect items are recorded

SAMPLE

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ⑤ | ⑨ | ⑩ | ⑩ | ⑫ | ⑬ | (114) | (112) | (113) | (121) | (119) | (120) | ㉝ | ㉝ | ㊱ | ㊲ | ㊲ | ㊴ | ㊵ | ㊵ | (54)<br>(56) | (55)<br>(56) | (55) | (115) | (122) | |
| | 8<br>+5 | 23<br>+9 | 55<br>+37 | 66<br>+85 | 345<br>+604<br>↑ | 729<br>+122 | 9 + 6 = □ | 5 + □ = 12 | □ + 8 = 11 | 16 − 7 = □ | 12 − □ = 3 | □ − 4 = 4 | 14<br>−6 | 15<br>−8 | 74<br>−9 | 42<br>−16 | 93<br>−48 | 658<br>−502 | 536<br>−318<br>↑ | 874<br>−325 | 3<br>x2 | 5<br>x3 | 5 x 5 = □ | 5+4 ○ 7+3 | 10−3 ○ 11−4 | |
| NAME | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | |
| 1. Cecilia | | X | X | X | | X | | X | X | | X | X | X | X | X | X | X | X | X | X | | X | X | | X | on Level I instructional level |
| 2. Fred | | | X | X | | X | | | | | X | X | X | X | X | X | X | X | X | X | | | | X | X | |
| 3. Alberto | | X | X | X | | X | | X | X | | X | X | | | X | X | X | X | X | X | | X | X | | X | |
| 4. | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5. | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6. Sally | | | | | | | | | | | | | | | | X | X | | X | X | | | | | | on Level III instructional level |
| 7. Robert | | | | | | | | | | | | | | | | X | X | | X | X | | | | | | |
| 8. Harry | | | | | | | | | | | | | | | | | X | | X | | | | | | | |
| 9. Carrie | | | | | | | | | | | | | | | | | | | X | X | | | | | X | |
| 10. Roberto | | | | | | X | | | | | | | | | | | | | X | X | | | | | | |
| 11. Angie | | | | X | | X | | | | | | | | | | | | | | | | | | | | |
| 12. Luis | | | | | | | | | | | | | | | | | | | | | X | X | X | | | |
| 13. Cindy | | | | X | | X | | | | | | | | | | | | | X | X | | | | | | |
| 14. Margarita | | | | | | | | | | | | | | | | | | | | | X | X | X | | | |
| 15. Javier | | | | | | | | | | | | | | | | | | | X | X | | | | | | |
| 16. Noboru | | | | | | | | | | | X | X | | | | | | | | | | | | X | X | |
| 17. June | | | | | | | | | | | X | X | | | | | | | | | | | | | | |
| 18. Wayne | | | | | | | | X | X | | X | X | | | | | | | | | | | | | | |
| 19. | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20. | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21. Dawn | | X | X | X | | X | | X | X | | X | X | | | | X | | | X | X | | | | | | on Level II instructional level |
| 22. Lupe | | | | | | | | X | X | | X | X | X | X | X | X | X | X | X | | | | | | X | |
| 23. John | | | | | | | | | | | | | | | | | | | X | X | X | X | X | X | X | |
| 24. Sue | | | | | | | | | | | | | X | X | X | X | X | X | X | X | | | | | | |
| 25. Ana | | | X | X | | X | | | | | | | | | | X | X | | X | X | | | | | | |
| 26. George | | | | | | | | X | X | | X | X | | | | | | | | | X | X | X | X | X | |
| 27. Yukima | | X | X | X | | X | | | | | | | | | X | X | X | | X | X | | | | | | |
| 28. Juan | | | | | | | | | | X | X | X | X | X | X | X | X | X | X | X | | | | | | |
| 29. Joanne | | | | | | | | | | | X | X | | | X | X | X | X | X | | | | | | | |
| 30. | | | | | | | | | | | | | | | | | | | | | | | | | | |

Computation, Level III
Teacher Jones
Grade 3

Color Key:
1st ✓ 2nd ____
3rd ____ 4th ____

**Computation**
**First Period**

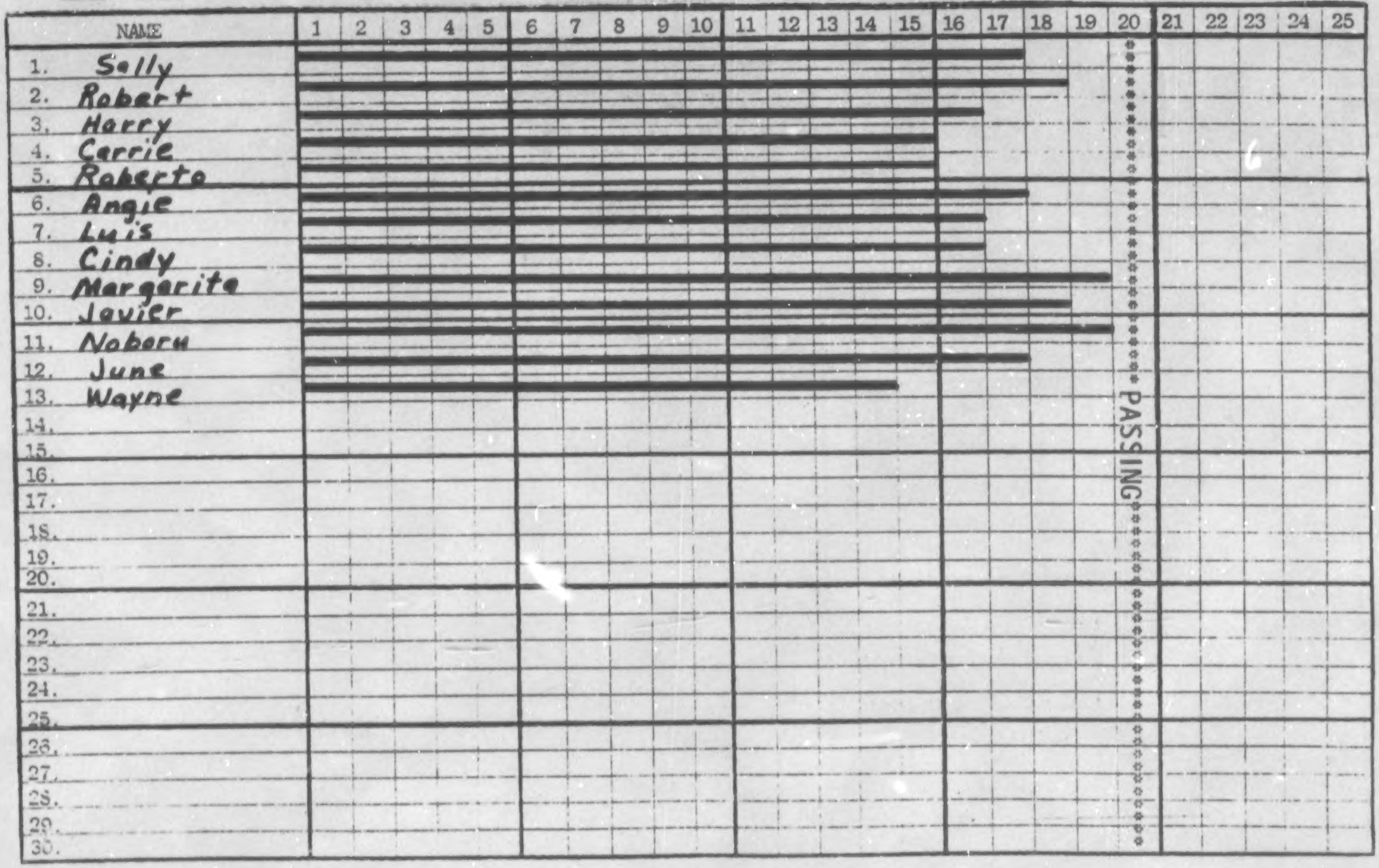
## MATHEMATICS INVENTORY
## CLASS RECORD OF GROWTH

25 Items

Use with Level II-VII
Computation Inventories

**SAMPLE**

*Draw a line through the number of spaces to show how many items correct for each testing period. (Note: If pupil regresses, make line below previous line as needed.) "Passing" has been interpreted by the Rosebank Project to mean successfully completing at least 80% of the items. This is only a guideline. Teachers and staffs may decide their own goals.*



# CLASS RECORD OF ITEMS

MATHEMATICS INVENTORY
LEVEL III, COMPUTATION

Teacher Jones

Grade 3

Color Key:
1st ✓ 2nd ____
3rd ____ 4th ____

*Circled numerals refer to Kennedy Kit Card*

Incorrect items are recorded

SAMPLE

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | ⑪ | ⑭ | ⑮ ⑱ | ⑯ | (38) | (40) | (41) | (42) | (67) | (70) | (71) | (73) | (134) | (57) (135) | (63) | (140) | (141) | (94) | (95) | (96) | (98) | (116) | (123) | (137) | (143) |
|  | 64<br>28<br>+17 | 578<br>+251 | $2.91<br>+4.39 | 4283<br>+4057 | $6.58<br>-2.39 | 762<br>-208 | 965<br>-478 | 3401<br>-1869 | 400<br>x 2 | 85<br>x5 | 143<br>x 2 | 563<br>x 7 | 8 x 6 = ☐ | 9 x ☐ = 0 | 6 x 10 = ☐ | 63 ÷ 9 = ☐ | 42 ÷ ☐ = 7 | 8)56 | 4)18 | 3)219 | 7)292 | 7 + 6 ○ 6 + 7 | 15 − 7 ○ 18 − 9 | 4 x 9 ○ 7 x 5 | 36 ÷ 6 ○ 54 ÷ 9 |
| NAME | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| 1. Sally |  |  |  |  | X | X | X | X |  |  |  | X |  |  |  |  |  |  | X | X | X |  |  |  |  |
| 2. Robert |  |  |  |  | X | X | X | X |  |  |  |  |  |  |  |  |  |  | X |  | X |  |  |  | X |
| 3. Harry |  |  | X |  | X |  |  |  | X | X |  | X |  | X |  |  | X |  | X |  | X |  |  |  |  |
| 4. Carrie | X | X | X | X |  |  |  |  |  |  |  |  |  | X |  |  | X | X | X | X | X |  |  |  |  |
| 5. Roberto |  |  |  |  | X | X | X | X |  |  |  |  |  |  |  |  | X | X | X | X | X |  |  |  | X |
| 6. Angie |  |  | X |  | X |  |  |  | X | X |  | X |  |  |  |  | X |  | X |  | X |  |  |  |  |
| 7. Luis |  |  | X |  | X |  |  | X | X | X |  | X |  |  |  |  | X |  | X |  | X |  |  |  |  |
| 8. Cindy |  |  |  |  | X | X | X | X |  |  |  |  |  | X |  |  | X |  | X |  | X |  |  |  |  |
| 9. Margarita |  |  |  |  | X | X | X | X |  |  |  |  |  | X |  |  |  |  |  |  |  |  |  | X |  |
| 10. Javier |  |  | X |  | X |  |  | X | X |  |  | X |  |  |  |  |  |  | X |  | X |  |  |  |  |
| 11. Noboru |  |  |  |  |  |  |  | X |  | X |  | X |  | X |  |  |  |  |  |  |  |  |  | X | X |
| 12. June |  |  |  |  |  |  |  |  |  | X | X | X |  | X |  |  |  |  | X |  | X |  |  | X | X |
| 13. Wayne |  |  |  |  | X | X | X | X |  | X |  | X |  | X |  |  |  |  | X |  | X |  |  | X | X |
| 14. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 16. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 17. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 18. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 19. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 20. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 21. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 22. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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654 26

Type of Test Computation
Level I
Teacher Jones
Grade 3
Color Key:
1st ✓ 2nd ___
3rd ___ 4th ___

**Computation**
**First Period**

## MATHEMATICS INVENTORY
## CLASS RECORD OF GROWTH

**SAMPLE**

20 Items
Use with Kindergarten Inventory,
Level I Computation Inventory and
Level I-VII Concepts and Application Inventories

Draw a line through the number of spaces to show how many items correct for each testing period. (Note: If pupil regresses make line below previous line as needed.)

Passing" has been interpreted by the Rosebank Project to mean successfully completing at least 80% of the items. This is only a guideline. Teachers and staffs may decide their own goals.

| NAME | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Cecilie | — | — | — | — | — | — | — | — | — | — | — | — |  |  |  |  |  |  |  |  |
| 2. Fred | — | — | — | — | — | — | — | — | — | — | — | — | — |  |  |  |  |  |  |  |
| 3. Alberto | — | — | — | — | — | — | — | — | — | — | — |  |  |  |  |  |  |  |  |  |
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| 11. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | PASSING |  |  |  |  |
| 12. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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MATHEMATICS INVENTORY
LEVEL I, COMPUTATION

# CLASS RECORD OF ITEMS

Teacher Jones
Grade 3

Color Key:
1st ✓ 2nd ____
3rd ____ 4th ____

Circled numerals refer to Kennedy Kit Card

*No Kennedy Kit Card reference here

**Computation**
**First Period**

**SAMPLE**

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ① | ② | ③ | ④ | ⑥ | ⑪ | * | (112) | ⑦ | ⑧ | * | ㉙ | ㉚ | (118) | * | (119) | ㉛ | ㉜ | ㉞ | ㉟ |
| | 2<br>+4 | 7<br>+3 | 9<br>+2 | 8<br>+4 | 5<br>1<br>+2 | 4 + 3 = ☐ | 16 + 3 = ☐ | 6 + ☐ = 7 | 37<br>+ 2 | 40<br>+10 | 52<br>+33 | 8<br>-2 | 10<br>- 4 | 9 - 5 = ☐ | 15 - 5 = ☐ | 8 - ☐ = 4 | 11<br>- 7 | 12<br>- 3 | 35<br>- 2 | 86<br>-15 |
| NAME | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 1. Cecilia | | | | | | | | X | | | | | X | | X | X | X | X | X | X |
| 2. Fred | | | | | X | | | X | X | X | X | | | | X | X | | | | |
| 3. Alberto | | | | | | | | X | | X | X | | | | X | X | X | X | X | X |
| 4. | | | | | | | | | | | | | | | | | | | | |
| 5. | | | | | | | | | | | | | | | | | | | | |
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100

# CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM

## CLASS LIST FOR DIAGNOSTIC MATHEMATICS INVENTORIES - INSTRUCTIONAL LEVELS FORM I

Teacher Jones Grade 3 SAMPLE FIRST PERIOD Color Key: 1st ✓ 2nd__ 3rd__ 4th__

| NAME | Kdg | I | | II | | III | | IV | | V | | VI | | VII | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | C&A | Comp | C&A | Comp | C&A | Comp | C&A | Comp | C&A | Comp | C&A | Comp | C&A | Comp |
| 1. Sally | | | | | | | X | X | | | | | | | |
| 2. Robert | | | | | | X | X | | | | | | | | |
| 3. Dawn | | | | | X | X | | | | | | | | | |
| 4. Harry | | | | | | X | X | | | | | | | | |
| 5. Cecilia | | X | X | | | | | | | | | | | | |
| 6. Lupe | | | | | X | X | | | | | | | | | |
| 7. John | | | | X | X | | | | | | | | | | |
| 8. Carrie | | | | | | X | X | | | | | | | | |
| 9. Roberto | | | | | | X | X | | | | | | | | |
| 10. Angie | | | | | | X | X | | | | | | | | |
| 11. Sue | | | | | X | X | | | | | | | | | |
| 12. Ana | | | | X | X | | | | | | | | | | |
| 13. Luis | | | | X | | | X | | | | | | | | |
| 14. Fred | | X | X | | | | | | | | | | | | |
| 15. Cindy | | | | | | X | X | | | | | | | | |
| 16. George | | | | X | X | | | | | | | | | | |
| 17. Margarita | | | | | | X | X | | | | | | | | |
| 18. Javier | | | | X | | | X | | | | | | | | |
| 19. Yukima | | | | X | X | | | | | | | | | | |
| 20. Juan | | | | | X | X | | | | | | | | | |
| 21. Noboru | | | | | | X | X | | | | | | | | |
| 22. June | | | | | | X | X | | | | | | | | |
| 23. Wayne | | | | | | X | X | | | | | | | | |
| 24. Joanne | | | | | X | X | | | | | | | | | |
| 25. Alberto | | | X | X | | | | | | | | | | | |
| 26. | | | | | | | | | | | | | | | |
| 27. | | | | | | | | | | | | | | | |
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# CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
# KENNEDY KIT
# DESCRIPTION AND SUGGESTIONS FOR USE

## Introduction

The Kennedy Kit consists of 730 5" x 8" Problem Cards, 730 Answer Cards and 146 Reference Cards used to measure 146 different computation skills developed in Grades 1-6. A list and description of these skills immediately follows this section. The Kit does not measure any of the other important mathematical strands (geometry, measurement, etc.), nor does it cover all of the skills currently taught and tested in newly adopted materials. Therefore, it is not a complete program. However, it does cover most of the computation skills developed in Grades 1-6. The Kit is used in a wide variety of ways including diagnosis, practice and evaluation.

## Description and Organization of Kit

There are five Problem Cards (labeled A-E) for each of the 146 skills. The five cards for each skill are all very similar; sometimes only the order of the examples has been changed. Five forms are provided for each skill for two reasons:

1. Whenever two or more pupils work on the same skill at the same time they can use different forms to avoid wasting time waiting for a card (or to avoid possible copying).

2. If a pupil needs to work on the same skill more than once he can use a different form each time.

There are, therefore, 730 Problem Cards (5 for each skill) and 730 Answer Cards. There are also 146 blue Reference Cards, one for each skill. Each gives related page references for the three basic texts used in the District: Houghton Mifflin, Mathematics for Individual Achievement, Scott Foresman, Mathematics Around Us, and Holt, Rinehart and Winston, Holt School Mathematics. See the Spanish Edition of this report for page references to the basic Spanish text, Matemática de Silver Burdett.

The Kit is contained in two boxes. One box holds pupil Problem Cards and Reference Cards; the other box contains Answer Cards and Reference Cards. It is possible, therefore, for both pupils and teachers (or aides, volunteers, etc.) to have ready access to Problem, Answer and Reference Cards. (Note: Some teachers have attached the Answer Card to the back of its Problem Card to facilitate scoring.)

Many teachers have split up their Kits. This has been done in a variety of ways, e.g., some have pulled out the skills appropriate for their pupils; others have pulled out two or three of the five forms for each skill. In any case, many teachers do not feel that they need all the cards for the entire Kit, although they may wish to keep the Kit intact because of much time invested by them in organizing it to best meet their needs.

## Purpose of Kennedy Kit

The Kit is intended to be used primarily for individual pupil testing...checking to find if a pupil can do specific computation skills or for practice. It does not instruct. If a pupil does not know a skill it will not help to send him to the Kit to work on that skill. He should first receive instruction on any needed concept(s) and skill(s) and then be checked on each by completing one of the five cards measuring it in the Kit. If he passes the skill as tested on the card it is considered mastered. Each card indicates the degree of success required for passing. If he does not pass, he should be given further instruction and then use another card on that same skill as another test.

The Kit is used in a number of other ways. Many teachers use it for additional pupil practice. Some use it for quick reviews or maintenance. Others use it as a basis for making cards for open-ended (or other) games by writing each item on an individual card until they have twenty or so items testing the same skill. They then make one master answer card for all the item cards and so have a set which can be used for practicing that skill. There are many other possible uses of the Kit. The important thing to remember is that it does not instruct...it should be used for practice or testing.

## Skills Included in Kit

The following pages list the 146 computational skills included in the Kennedy Kit. The list also shows at which grade level each of the three basic textbook publishers initially develops each skill.

Immediately following the list of skills are three tables which indicate the grade level development of these skills by each publisher. These are followed by a table which summarizes this data for all three publishers.

# CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
# KENNEDY KIT COMPUTATION ("C") CARDS
# GRADE LEVELS AT WHICH SKILLS ARE DEVELOPED INITIALLY

| CARD (C) Number | Description of Skill | Grade Developed (Initially) Houghton | Scott | Holt | Example |
|---|---|---|---|---|---|
| 1 | Addition, basic facts through 9 | 1 | 1 | 1 | 6<br>+ 3 |
| 2 | Addition, basic facts through 10 | 1 | 1 | 1 | 8<br>+ 2 |
| 3 | Addition, basic facts through 11 | 1 | 1 | 1 | 6<br>+ 5 |
| 4 | Addition, basic facts through 12 | 1 | 1 | 1 | 7<br>+ 5 |
| 5 | Addition, basic facts through 18 | 2 | 2 | 1 | 9<br>+ 9 |
| 6 | Addition, column, 1-digit addends, sums less than 10 | 1 | 1 | 1 | 4<br>4<br>+ 1 |
| 7 | Addition, 1-digit and 2-digit addends, no renaming | 1 | 2 | 1 | 57<br>+ 2 |
| 8 | Addition, 2-digit addends, multiples of 10, without and with renaming | 1 | ___* | 1 | 60<br>+40 |
| 9 | Addition, 1-digit addend and 2-digit addend, renaming | 2 | 2 | 2 | 39<br>+ 5 |
| 10 | Addition, 2-digit addends, renaming | 2 | 2 | 2 | 74<br>+68 |
| 11 | Addition, column, 2-digit addends, renaming | 3 | 3 | 3 | 26<br>19<br>+34 |
| 12 | Addition, 3-digit addends, no renaming | 2 | 2 | 2 | 634<br>+251 |
| 13 | Addition, 3-digit addends, renaming ones | 3 | 2 | 3 | 436<br>+218 |
| 14 | Addition, 3-digit addends, renaming tens | 3 | 3 | 3 | 394<br>+280 |

*Skill not taught in textbook series, Grades 1-6

| Card (C) Number | Description of Skill | Grade Developed (Initially) Houghton | Scott | Holt | Example |
|---|---|---|---|---|---|
| 15 | Addition, 3-digit addends, renaming ones, tens, hundreds | 3 | 3 | 3 | 567<br>+684 |
| 16 | Addition, 4-digit addends, renaming ones, tens | 4 | 3 | 3 | 4123<br>+3598 |
| 17 | Addition, column, 4-digit and 5-digit addends, renaming | 6 | 4 | 3 | 53274<br>1876<br>24930<br>+ 1752 |
| 18 | Addition, dollars and cents, renaming | 3 | 2 | 3 | $ 9.04<br>16.37<br>+123.86 |
| 19 | Addition, fractions, like denominators, sums less than 1, answers simplified | 4 | 5 | 4 | $\frac{1}{4}$<br>+ $\frac{1}{4}$ |
| 20 | Addition, fractions, like denominators, sums equal to 1, answers not simplified | 4 | ___* | 4 | $\frac{6}{9}$<br>+ $\frac{3}{9}$ |
| 21 | Addition, fractions, like denominators, sums greater than 1, answers simplified | 5 | 4 | 4 | $\frac{7}{8}$<br>+ $\frac{3}{8}$ |
| 22 | Addition, mixed and whole number addends | 4 | 5 | 4 | $3\frac{7}{8}$<br>+ 3 |
| 23 | Addition, fractions and mixed numeral addends, like denominators, answers simplified | 5 | 5 | 5 | $3\frac{2}{6}$<br>+ $\frac{1}{6}$ |
| 24 | Addition, mixed numerals, like denominators, answers simplified | 5 | 5 | 5 | $4\frac{2}{3}$<br>+ $2\frac{2}{3}$ |

*Skill not taught in textbook series, Grades 1-6

| Card (C) Number | Description of Skill | Grade Developed (Initially) Houghton | Scott | Holt | Example |
|---|---|---|---|---|---|
| 25 | Addition, fractions, unlike denominators, sums less than 1, answers simplified | 5 | 4 | 4 | $\frac{3}{5}$<br>$+ \frac{1}{10}$ |
| 26 | Addition, fractions, unlike denominators, sums greater than 1, answers simplified | 5 | 5 | 5 | $\frac{2}{3}$<br>$+ \frac{5}{6}$ |
| 27 | Addition, mixed numerals, unlike denominators, answers simplified | 5 | 5 | 5 | $6\frac{5}{10}$<br>$+ 2\frac{3}{5}$ |
| 28 | Addition, decimals, tenths and hundredths | 6 | 4 | 5 | 1.9<br>+ 1.8<br>2.37<br>+ 4.83 |
| 29 | Subtraction, basic facts, minuends through 9 | 1 | 1** | 1 | 9<br>- 4 |
| 30 | Subtraction, basic facts minuends through 10 | 1 | 1 | 1 | 10<br>- 8 |
| 31 | Subtraction, basic facts, minuends through 11 | 1 | 1 | 1** | 11<br>- 6 |
| 32 | Subtraction, basic facts, minuends through 12 | 1 | 1 | 1 | 12<br>- 3 |
| 33 | Subtraction, basic facts, minuends through 18 | 2 | 2 | 1** | 18<br>- 9 |
| 34 | Subtraction, 1-digit from 2-digit, no renaming | 2 | 2 | 1 | 35<br>- 2 |
| 35 | Subtraction, 2-digit from 2-digit, no renaming | 1 | 2 | 1 | 67<br>-34 |
| 36 | Subtraction, 1-digit from 2-digit, renaming | 2 | 2 | 2 | 66<br>- 8 |
| 37 | Subtraction, 2-digit from 2-digit, renaming | 2 | 2 | 2 | 42<br>-27 |

**Facts developed in horizontal rather than vertical form; see Skill 118 for textbook references.

| Card (C) Number | Description of Skill | Grade Developed (Initially) Houghton | Scott | Holt | Example |
|---|---|---|---|---|---|
| 38 | Subtraction, dollars and cents, renaming | 3 | 3 | 3 | $5.27<br>-3.88 |
| 39 | Subtraction, 3-digit from 3-digit, no renaming | 2 | 2 | 2 | 938<br>- 437 |
| 40 | Subtraction, 3-digit from 3-digit renaming tens | 3 | 2 | 3 | 563<br>- 249 |
| 41 | Subtraction, 3-digit from 3-digit, renaming tens, hundreds | 3 | 3 | 3 | 815<br>- 378 |
| 42 | Subtraction, numbers greater than 1000, renaming | 4 | 3 | 3 | 5533<br>- 2866 |
| 43 | Subtraction, fractions, like denominators, answers not simplified | 4 | 4 | 4 | $\frac{4}{4}$<br>$-\frac{1}{4}$ |
| 44 | Subtraction, fractions, like denominators, answers simplified | 5 | 5 | 5 | $\frac{3}{4}$<br>$-\frac{1}{4}$ |
| 45 | Subtraction, fractions, like denominators, sums greater than 1, answers simplified | 5 | ___* | ___* | $\frac{8}{4}$<br>$-\frac{2}{4}$ |
| 46 | Subtraction, fraction from mixed numeral, like denominators, answers simplified | 5 | 5 | 5 | $3\frac{4}{6}$<br>$-\frac{1}{6}$ |
| 47 | Subtraction, mixed numeral from whole number | 6 | 5 | 6 | 7<br>$-3\frac{1}{5}$ |
| 48 | Subtraction, mixed numeral from mixed numeral, like denominators, renaming, answers simplified | 6 | 5 | 5 | $4\frac{1}{4}$<br>$-1\frac{3}{4}$ |

*Skill not taught in textbook series, Grades 1-6

| Card (C) Number | Description of Skill | Grade Developed (Initially) Houghton | Scott | Holt | Example |
|---|---|---|---|---|---|
| 49 | Subtraction, fractions, unlike denominators, answers simplified | 5 | 4 | 4 | $\begin{array}{r} \frac{7}{8} \\ -\ \frac{1}{4} \\ \hline \end{array}$ |
| 50 | Subtraction, mixed numeral from mixed numeral, unlike denominators, answers simplified | 5 | 5 | 5 | $\begin{array}{r} 15\frac{5}{6} \\ -\ 7\frac{1}{2} \\ \hline \end{array}$ |
| 51 | Subtraction, mixed numeral from mixed numeral, unlike denominators, renaming, answers simplified | 6 | 5 | 5 | $\begin{array}{r} 14\frac{1}{6} \\ -\ 8\frac{2}{3} \\ \hline \end{array}$ |
| 52 | Subtraction, decimals, tenths | 6 | 4 | 5 | $\begin{array}{r} .9 \\ -\ .7 \\ \hline \end{array}$ |
| 53 | Subtraction, decimals, hundredths | 6 | 4 | 5 | $\begin{array}{r} 8.62 \\ -\ 4.76 \\ \hline \end{array}$ |
| 54 | Multiplication, basic facts with 2 | 2 | 2** | 1** | $\begin{array}{r} 5 \\ \times\ 2 \\ \hline \end{array}$ |
| 55 | Multiplication, basic facts with 5 | 2 | 2** | 2** | $\begin{array}{r} 3 \\ \times\ 5 \\ \hline \end{array}$ |
| 56 | Multiplication, basic facts with 3 | 3 | 2** | 1** | $\begin{array}{r} 4 \\ \times\ 3 \\ \hline \end{array}$ |
| 57 | Multiplication, basic facts with 0 and 1 | 3 | 3 | 2** | $\begin{array}{r} 5 \\ \times\ 1 \\ \hline \end{array} \quad \begin{array}{r} 4 \\ \times\ 0 \\ \hline \end{array}$ |
| 58 | Multiplication, basic facts with 4 | 3 | 3 | 2** | $\begin{array}{r} 5 \\ \times\ 4 \\ \hline \end{array}$ |
| 59 | Multiplication, basic facts with 6 | 3 | 3 | 3 | $\begin{array}{r} 8 \\ \times\ 6 \\ \hline \end{array}$ |
| 60 | Multiplication, basic facts with 7 | 3 | 3 | 3 | $\begin{array}{r} 9 \\ \times\ 7 \\ \hline \end{array}$ |

**Facts developed in horizontal rather than vertical form; see Skills 132 and 134 for textbook references.

| Card (C) Number | Description of Skill | Grade Developed (Initially) Houghton | Scott | Holt | Example |
|---|---|---|---|---|---|
| 61 | Multiplication, basic facts with 8 | 3 | 3 | 3 | 7 x 8 |
| 62 | Multiplication, basic facts with 9 | 3 | 3 | 3 | 4 x 9 |
| 63 | Multiplication with 10 | 3 | 3 | 3** | 10 x 5 |
| 64 | Multiplication, basic facts, products less than 21 | 2 | 2 | 1 | 7 x 2<br>5 x 3 |
| 65 | Multiplication, basic facts, products through 81 | 3 | 3 | 3 | 9 x 6 |
| 66 | Multiplication with 10 and 100 as factors | 4 | 3 | 3 | 23 x 10<br>100 x 72 |
| 67 | Multiplication with multiples of 10 and 100 | 3 | 3 | 3 | 30 x 8<br>600 x 4 |
| 68 | Multiplication, 2-digit by 1-digit, multiplicand between 10 and 20, no renaming | 3 | ___* | 3 | 11 x 9 |
| 69 | Multiplication, 2-digit by 1-digit, multiplicand between 10 and 20, renaming | 3 | 3 | 3 | 12 x 7 |
| 70 | Multiplication, 2-digit by 1-digit, multiplicand greater than 20, renaming | 3 | 3 | 3 | 23 x 4 |
| 71 | Multiplication, 3-digit by 1-digit, no renaming | 4 | 3 | 3 | 412 x 2 |
| 72 | Multiplication, 3-digit by 1-digit, renaming to tens | 4 | 3 | 3 | 315 x 6 |
| 73 | Multiplication, 3-digit by 1-digit, renaming in all places | 4 | 3 | 3 | 629 x 4 |
| 74 | Multiplication, 2-digit by multiples of 10, renaming | 4 | 3 | 4 | 28 x 30 |

**Facts developed in horizontal rather than vertical form.

*Skill not taught in textbook series, Grades 1-6.

| Card (C) Number | Description of Skill | Grade Developed (Initially) | | | Example |
|---|---|---|---|---|---|
| | | Houghton | Scott | Holt | |
| 75 | Multiplication, 2-digit by 2-digit, multiplier between 10 and 20, renaming | 4 | 4 | 4 | 39<br>x 12 |
| 76 | Multiplication, 2-digit by 2-digit, multiplier greater than 20, renaming | 4 | 4 | 4 | 57<br>x 43 |
| 77 | Multiplication, 2-digit by multiples of 100, renaming | 6 | 4 | 5 | 86<br>x 300 |
| 78 | Multiplication, 3-digit by 2-digit, renaming | 4 | 4 | 4 | 697<br>x 45 |
| 79 | Multiplication, dollars and cents by 1-digit multiplier, renaming | 4 | 4 | 4 | $93.06<br>x 5 |
| 80 | Multiplication, dollars and cents by 2-digit multiplier, renaming | 4 | 4 | 4 | $ 5.32<br>x 87 |
| 81 | Multiplication, multiplicand greater than 1000, by 1-digit multiplier, renaming | 6 | 4 | 4 | 2367<br>x 9 |
| 82 | Multiplication, 4-digit by 2-digit and 3-digit, renaming | ___* | 5 | 5 | 4875<br>x 135 |
| 83 | Multiplication, whole number by fraction with numerator of 1, answers simplified | 5 | 5 | 5 | $3 \times \frac{1}{4} = \square$ |
| 84 | Multiplication, whole number by fraction with numerator greater than 1, answers simplified | 5 | 5 | 5 | $7 \times \frac{3}{4} = \square$ |
| 85 | Multiplication, fraction by fraction, numerators of 1 | 5 | 5 | 5 | $\frac{1}{2} \times \frac{1}{3} = \square$ |
| 86 | Multiplication, fraction by fraction, one with numerator of 1 and other with numerator greater than 1, answers simplified | 5 | 5 | 5 | $\frac{2}{3} \times \frac{1}{4} = \square$ |
| 87 | Multiplication, fraction by fraction, both numerators greater than 1, answers simplified | 5 | 5 | 5 | $\frac{4}{5} \times \frac{3}{10} = \square$ |

*Skill not taught in textbook series, Grades 1-6

| Card (C) Number | Description of Skill | Grade Developed (Initially) Houghton | Scott | Holt | Example |
|---|---|---|---|---|---|
| 88 | Multiplication, whole number by mixed, answers simplified | ___* | 5 | 6 | $3 \times 4\frac{1}{5} = \square$ |
| 89 | Multiplication, mixed numeral by mixed numeral, answers simplified | 6 | 5 | 6 | $2\frac{1}{2} \times 3\frac{2}{3} = \square$ |
| 90 | Multiplication, decimals, tenths and hundredths | 6 | 5 | 6 | $\begin{array}{r} .6 \\ \times .6 \\ \hline \end{array}$ $\begin{array}{r} 9.04 \\ \times 7 \\ \hline \end{array}$ |
| 91 | Division, basic facts, divisors 2 and 3 | 3 | 3 | 3 | $3\overline{)18}$ |
| 92 | Division, basic facts, divisors 4 and 5 | 3 | 3 | 3 | $4\overline{)24}$ |
| 93 | Division, basic facts, divisors 6 and 7 | 3 | 3 | 3 | $6\overline{)42}$ |
| 94 | Division, basic facts, divisors 8 and 9 | 3 | 3 | 3 | $9\overline{)36}$ |
| 95 | Division, 2-digit by 1-digit, quotient less than 10, remainders | 3 | 3 | 3 | $5\overline{)47}$ |
| 96 | Division, 2-digit and 3-digit, by 1-digit, quotient greater than 10, no remainders | 4 | 3 | 3 | $3\overline{)96}$ |
| 97 | Division, 2-digit and 3-digit by 1-digit, quotient between 10 and 20, no remainders | 4 | 3 | 3 | $9\overline{)117}$ |
| 98 | Division, 2-digit and 3-digit by 1-digit, quotient greater than 10, remainders | 4 | 3 | 3 | $3\overline{)77}$ |
| 99 | Division, 3-digit by 1-digit, quotient greater than 100, remainders | 4 | 5 | 3 | $6\overline{)743}$ |
| 100 | Division, 3-digit by 2-digit, quotient between 10 and 20, with and without remainders | 5 | 3 | 4 | $23\overline{)443}$ |
| 101 | Division, 3-digit by 2-digit, with and without remainders | 5 | 3 | 4 | $32\overline{)967}$ |

*Skill not taught in textbook series, Grades 1-6

| Card (C) Number | Description of Skill | Grade Developed (Initially) Houghton | Scott | Holt | Example |
|---|---|---|---|---|---|
| 102 | Division, 4-digit by 2 digit, remainders | 6 | 4 | 4 | $64\overline{)7395}$ |
| 103 | Division, 5-digit by 1-digit, remainders | ___* | 6 | 5 | $6\overline{)89943}$ |
| 104 | Division, dollars and cents, 2-digit divisors, no remainders | 5 | 4 | 5 | $24\overline{)\$16.08}$ |
| 105 | Division, 5-digit by 2-digit, remainders | ___* | 6 | 5 | $26\overline{)79239}$ |
| 106 | Division, whole number by fraction and fraction by fraction, answers simplified | 6 | 6 | 6 | $6 \div \frac{1}{5} = \square$ $\frac{5}{6} \div \frac{2}{3} = \square$ |
| 107 | Division, fraction by whole number, answers simplified | ___* | 6 | 6 | $\frac{3}{5} \div 2 = \square$ |
| 108 | Division, mixed numeral by mixed numeral, answers simplified | 6 | 6 | 6 | $3\frac{1}{2} \div 2\frac{1}{3} = \square$ |
| 109 | Division, decimals, hundredths by 1-digit and 2-digit divisors, no remainders | 6 | 6 | 6 | $7\overline{)1.75}$<br>$42\overline{)216.72}$ |
| 110 | Division, decimals, thousandths, by 1-digit divisors (whole numbers), no remainders. | 6 | 6 | 6 | $7\overline{)6.552}$ |
| 111 | Addition, basic facts through 12, horizontal form, sum missing | 1 | 1 | 1 | $5 + 6 = \square$ |
| 112 | Addition, basic facts through 12, horizontal form, second addend missing | 1 | 1 | 1 | $2 + \square = 10$ |
| 113 | Addition, basic facts through 12. horizontal form, first addend missing | 3 | 2 | 2 | $\square + 4 = 11$ |
| 114 | Addition, basic facts through 18, horizontal form, sum missing | 2 | 2 | 1 | $9 + 6 = \square$ |

*Skill not taught in textbook series, Grades 1-6

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| Card (C) Number | Description of Skill | Grade Developed (Initially) Houghton | Scott | Holt | Example |
|---|---|---|---|---|---|
| 115 | Addition, numbers and basic facts through 12, relations symbol (=, < or > ) missing | 5 | 1 | 2 | 5○4 + 2 |
| 116 | Addition, numbers and basic facts through 18, relations symbol (=, < or > ) missing | 3 | 2 | 3 | 6 + 8○13 |
| 117 | Addition, basic facts through 18, parentheses, 3 addends on each side of missing relations symbol (=, < or > ) | ___* | ___* | ___* | (4 + 4) + 3○3 + (6 + 5) |
| 118 | Subtraction, basic facts, minuends through 12, horizontal form | 1 | 1 | 1 | 11 - 6 = □ |
| 119 | Subtraction, basic facts, minuends through 12, horizontal form, first addend missing | ___* | 1 | 2 | 8 - □ = 4 |
| 120 | Subtraction, basic facts, minuends through 12, horizontal form, sum missing | ___* | ___* | 2 | □ - 3 = 6 |
| 121 | Subtraction, basic facts, minuends through 18, horizontal form | 2 | 2 | 1 | 16 - 9 = □ |
| 122 | Subtraction, numbers and basic facts through 12, relations symbol (=, < or > ) missing | ___* | 2 | 2 | 12 - 4○7 |
| 123 | Subtraction, numbers and basic facts through 18, relations symbol (=, < or > ) missing | ___* | 2 | 3 | 16 - 8○8 |
| 124 | Mixed addition and subtraction, basic facts, sums through 12, vertical form | 1 | 1 | 1 | $\begin{array}{r} 2 \\ +\ 6 \\ \hline \end{array}$ $\begin{array}{r} 11 \\ -\ 5 \\ \hline \end{array}$ |
| 125 | Mixed addition and subtraction, basic facts, sums through 12, horizontal form, sums and addends missing | 3 | 1 | 1 | 6 - □ = 4<br>□ + 5 = 8 |

*Skill not taught in textbook series, Grades 1-6

| Card (C) Number | Description of Skill | Grade Developed (Initially) | | | Example |
|---|---|---|---|---|---|
| | | Houghton | Scott | Holt | |
| 126 | Mixed addition and subtraction, basic facts, sums through 18, vertical form | 2 | 2 | 1 | 6 + 7<br>15 - 6 |
| 127 | Mixed addition and subtraction, basic facts, sums through 18, horizontal form, sums and addends missing | ___* | 2 | 1 | □ - 9 = 9<br>7 + □ = 15 |
| 128 | Mixed addition and subtraction, 1-digit and 2-digit, no renaming, vertical form | 1 | ___* | 1 | 14 + 3<br>75 - 70 |
| 129 | Mixed addition and subtraction, 1-digit and 2-digit, renaming, vertical form | 2 | 2 | 2 | 18 + 4<br>32 - 9 |
| 130 | Mixed addition and subtraction, 1-digit, 2-digit and 3-digit, renaming, vertical form | 2 | 3 | 2 | 285 - 29<br>326 + 7 |
| 131 | Mixed addition and subtraction, fractions, like denominators, horizontal and vertical forms, sums less than or equal to 1 | 4 | 4 | ___* | $\frac{1}{2} + \frac{1}{2}$<br>$\frac{5}{6} + \frac{1}{6}$ |
| 132 | Multiplication, basic facts, products through 25, horizontal form, product missing | 3 | 2 | 2 | 5 x 3 = □ |
| 133 | Multiplication, basic facts, products through 25, horizontal form, either factor or product missing | ___* | 3 | 2 | 6 x □ = 24<br>□ x 5 = 20<br>7 x 3 = □ |
| 134 | Multiplication, basic facts, products through 81, horizontal form, product missing | 3 | 3 | 3 | 8 x 9 = □ |
| 135 | Multiplication, basic facts, products through 81, horizontal form, either factor or product missing | ___* | 3 | 3 | 7 x □ = 49<br>□ x 8 = 72<br>6 x 7 = □ |

*Skill not taught in textbook series, Grades 1-6

| Card (C) Number | Description of Skill | Grade Developed (Initially) | | | Example |
|---|---|---|---|---|---|
| | | Houghton | Scott | Holt | |
| 136 | Multiplication, basic facts, products through 25, relations symbol (=, < or > ) missing | __* | 3 | __* | 3 x 4 ○ 2 x 6<br>3 fives ○ 4 threes |
| 137 | Multiplication, basic facts, products through 81, relations symbol (=, < or > ) missing | 3 | 3 | __* | 8 x 8 ○ 9 x 7<br>7 sixes ○ 5 eights |
| 138 | Division, basic facts, dividends through 25, horizontal form, quotients missing | 3 | 3 | 3 | 24 ÷ 4 = □ |
| 139 | Division, basic facts, dividends through 25, horizontal form, either divisor or quotient missing | 4 | 3 | __* | 24 ÷ □ = 4<br>24 ÷ 6 = □ |
| 140 | Division, basic facts, dividends through 81, horizontal form, quotients missing | 3 | 3 | 3 | 81 ÷ 9 = □ |
| 141 | Division, basic facts, dividends through 81, horizontal form, either divisor or quotient missing | __* | __* | __* | 72 ÷ 8 = □<br>63 ÷ □ = 9 |
| 142 | Division, basic facts, dividends through 25, relations symbol (=, < or > ) missing | __* | __* | __* | 25 ÷ 5 ○ 24 ÷ 3 |
| 143 | Division, basic facts, dividends through 81, relations symbol (=, < or > ) missing | __* | __* | __* | 72 ÷ 8 ○ 81 ÷ 9 |
| 144 | Mixed addition, subtraction, multiplication, division; parentheses, 3 addends, factors, etc., on each side of missing relations symbol (=, < or > ) | __* | __* | __* | 7 x (6+7) ○ (8+5) x 4 |
| 145 | Division, decimals by tenths | 6 | 6 | 6 | $.9\overline{)3.6}$ $.8\overline{).72}$ |
| 146 | Division, decimals by tenths, hundredths | 6 | 6 | 6 | $.47\overline{)103.4}$ |

*Skill not taught in textbook series, Grades 1-6

## Kennedy Kit Record Keeping

Many different forms of the Kennedy Kit Student Profile Card have been prepared to accompany the Kit. Forms 1-3, which follow immediately, were developed when the Kit was first in use and the District had only one basic textbook series. On Form 1 below, skills 1-110 are listed according to the teaching sequence, i.e., the simplest addition akill ("C" Card 1) is immediately followed by the simplest subtraction skill ("C" Card 29) etc. Since the original Kit contained only 110 skills the original Profile Card was numbered only through 110. When the Kit was revised to include 146 skills the new skills 111-146 were simply listed in numerical order immediately following skill 110.

### KENNEDY KIT STUDENT PROFILE CARD

### FORM 1

**Student's Name**

**Date Started**

| No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | 9 | | 92 | | 70 | | 74 | | 17 | | 86 | | 107 | | 121 | | 136 | |
| 29 | | 10 | | 19 | | 72 | | 75 | | 79 | | 87 | | 88 | | 122 | | 137 | |
| 7 | | 11 | | 20 | | 95 | | 76 | | 77 | | 106 | | 108 | | 123 | | 138 | |
| 6 | | 36 | | 14 | | 18 | | 97 | | 80 | | 103 | | 109 | | 124 | | 139 | |
| 2 | | 37 | | 15 | | 38 | | 81 | | 99 | | 89 | | 110 | | 125 | | 140 | |
| 30 | | 12 | | 59 | | 73 | | 78 | | 102 | | 28 | | 111 | | 126 | | 141 | |
| 8 | | 39 | | 93 | | 96 | | 100 | | 83 | | 52 | | 112 | | 127 | | 142 | |
| 3 | | 54 | | 60 | | 98 | | 101 | | 85 | | 53 | | 113 | | 128 | | 143 | |
| 31 | | 55 | | 61 | | 41 | | 43 | | 84 | | 90 | | 114 | | 129 | | 144 | |
| 4 | | 56 | | 94 | | 16 | | 44 | | 21 | | 82 | | 115 | | 130 | | 145 | |
| 32 | | 57 | | 62 | | 42 | | 25 | | 45 | | 104 | | 116 | | 131 | | 146 | |
| 35 | | 58 | | 63 | | 64 | | 49 | | 26 | | 105 | | 117 | | 132 | | | |
| 33 | | 13 | | 68 | | 65 | | 24 | | 22 | | 47 | | 118 | | 133 | | | |
| 5 | | 40 | | 69 | | 66 | | 27 | | 23 | | 48 | | 119 | | 134 | | | |
| 34 | | 91 | | 71 | | 67 | | 50 | | 46 | | 51 | | 120 | | 135 | | | |

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## Kennedy Kit Record Keeping (Cont.)

Form 2 below lists the skills in numerical sequence. Note that this is not the order in which they would be taught. This form is helpful for persons recording who may not be familiar with the teaching sequence.

### KENNEDY KIT STUDENT PROFILE CARD

### FORM 2

Student's Name

Date Started

| No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | 16 | | 31 | | 46 | | 61 | | 76 | | 91 | | 106 | | 121 | | 136 | |
| 2 | | 17 | | 32 | | 47 | | 62 | | 77 | | 92 | | 107 | | 122 | | 137 | |
| 3 | | 18 | | 33 | | 48 | | 63 | | 78 | | 93 | | 108 | | 123 | | 138 | |
| 4 | | 19 | | 34 | | 49 | | 64 | | 79 | | 94 | | 109 | | 124 | | 139 | |
| 5 | | 20 | | 35 | | 50 | | 65 | | 80 | | 95 | | 110 | | 125 | | 140 | |
| 6 | | 21 | | 36 | | 51 | | 66 | | 81 | | 96 | | 111 | | 126 | | 141 | |
| 7 | | 22 | | 37 | | 52 | | 67 | | 82 | | 97 | | 112 | | 127 | | 142 | |
| 8 | | 23 | | 38 | | 53 | | 68 | | 83 | | 98 | | 113 | | 128 | | 143 | |
| 9 | | 24 | | 39 | | 54 | | 69 | | 84 | | 99 | | 114 | | 129 | | 144 | |
| 10 | | 25 | | 40 | | 55 | | 70 | | 85 | | 100 | | 115 | | 130 | | 145 | |
| 11 | | 26 | | 41 | | 56 | | 71 | | 86 | | 101 | | 116 | | 131 | | 146 | |
| 12 | | 27 | | 42 | | 57 | | 72 | | 87 | | 102 | | 117 | | 132 | | | |
| 13 | | 28 | | 43 | | 58 | | 73 | | 88 | | 103 | | 118 | | 133 | | | |
| 14 | | 29 | | 44 | | 59 | | 74 | | 89 | | 104 | | 119 | | 134 | | | |
| 15 | | 30 | | 45 | | 60 | | 75 | | 90 | | 105 | | 120 | | 135 | | | |

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Kennedy Kit Record Keeping (Cont.)

Form 3 below lists skills primarily according to the arithmetical operation involved, i.e., all addition skills are listed, then all subtraction, followed by all multiplication and then division. This is how the Kit itself is organized and numbered.

## KENNEDY KIT STUDENT PROFILE CARD

### FORM 3

Student's Name

Date Started

| No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | 16 | | 113 | | 39 | | 118 | | 55 | | 70 | | 85 | | 94 | | 109 | |
| 2 | | 17 | | 114 | | 40 | | 119 | | 56 | | 71 | | 86 | | 95 | | 110 | |
| 3 | | 18 | | 115 | | 41 | | 120 | | 57 | | 72 | | 87 | | 96 | | 138 | |
| 4 | | 19 | | 116 | | 42 | | 121 | | 58 | | 73 | | 88 | | 97 | | 139 | |
| 5 | | 20 | | 117 | | 43 | | 122 | | 59 | | 74 | | 89 | | 98 | | 140 | |
| 6 | | 21 | | 29 | | 44 | | 123 | | 60 | | 75 | | 90 | | 99 | | 141 | |
| 7 | | 22 | | 30 | | 45 | | 124 | | 61 | | 76 | | 132 | | 100 | | 142 | |
| 8 | | 23 | | 31 | | 46 | | 125 | | 62 | | 77 | | 133 | | 101 | | 143 | |
| 9 | | 24 | | 32 | | 47 | | 126 | | 63 | | 78 | | 134 | | 102 | | 145 | |
| 10 | | 25 | | 33 | | 48 | | 127 | | 64 | | 79 | | 135 | | 103 | | 146 | |
| 11 | | 26 | | 34 | | 49 | | 128 | | 65 | | 80 | | 136 | | 104 | | 144 | |
| 12 | | 27 | | 35 | | 50 | | 129 | | 66 | | 81 | | 137 | | 105 | | | |
| 13 | | 28 | | 36 | | 51 | | 130 | | 67 | | 82 | | 91 | | 106 | | | |
| 14 | | 111 | | 37 | | 52 | | 131 | | 68 | | 83 | | 92 | | 107 | | | |
| 15 | | 112 | | 38 | | 53 | | 54 | | 69 | | 84 | | 93 | | 108 | | | |

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Forms 4-9 which follow were developed to accompany the three basic textbook series adopted for use in 1976, published by Houghton Mifflin, Scott Foresman and Holt. Forms 4, 6 and 8 list the skills in the order in which they are developed by each of the three publishers, i.e., the simplest addition skill (Card 1) is immediately followed by the simplest subtraction skill (Card 29), etc. A heavy line is drawn at the end of each grade level.

Forms 5, 7 and 9 show the same skills within each grade level but list them in numerical sequence within each grade. Again, a heavy line separates each grade level.

## KENNEDY KIT STUDENT PROFILE CARD

Houghton Mifflin, Mathematics for Individual Achievement
Form 4

Student Name ______________________ Date Started ______________________

| No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | 124 | | 39 | | 18 | | 59 | | 68 | | 74 | | 104 | | 86 | | *88 | |
| 29 | | 112 | | 130 | | 38 | | 93 | | 69 | | 75 | | 44 | | 87 | | 89 | |
| 2 | | *119 | | 54 | | 132 | | 60 | | 95 | | 76 | | 45 | | 17 | | 90 | |
| 30 | | 34 | | 64 | | *133 | | 61 | | 137 | | 80 | | 25 | | 77 | | 106 | |
| 6 | | 5 | | 55 | | *136 | | 94 | | 139 | | 78 | | 49 | | 81 | | *107 | |
| 8 | | 114 | | *120 | | 56 | | 62 | | 16 | | 19 | | 46 | | *82 | | 108 | |
| 7 | | 33 | | *122 | | 58 | | 65 | | 42 | | 43 | | 21 | | 102 | | 109 | |
| 35 | | 121 | | *127 | | 138 | | 134 | | 66 | | 131 | | 26 | | *103 | | 145 | |
| 128 | | 126 | | 116 | | *142 | | *135 | | 71 | | 22 | | 23 | | *105 | | 110 | |
| 3 | | 9 | | 113 | | 91 | | 140 | | 72 | | 20 | | 24 | | 47 | | 146 | |
| 31 | | 10 | | 125 | | 92 | | *141 | | 73 | | 99 | | 27 | | 48 | | *144 | |
| 4 | | 36 | | *123 | | 14 | | *143 | | 96 | | *117 | | 50 | | 51 | | | |
| 111 | | 37 | | 11 | | 15 | | 70 | | 97 | | 115 | | 83 | | 28 | | | |
| 32 | | 129 | | 13 | | 41 | | 63 | | 98 | | 101 | | 84 | | 52 | | | |
| 118 | | 12 | | 40 | | 57 | | 67 | | 79 | | 100 | | 85 | | 53 | | | |

* Skill not developed in textbook series but should be taught.

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## KENNEDY KIT PROFILE CARD

Houghton Mifflin, Mathematics for Individual Achievement
Form 5

Student Name ______________________ Date Started ______________________

| No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | *119 | | 114 | | 41 | | 92 | | 140 | | 75 | | 25 | | 104 | | 102 | |
| 2 | | 124 | | *120 | | 56 | | 93 | | *141 | | 76 | | 26 | | 115 | | *103 | |
| 3 | | 128 | | 121 | | 57 | | 94 | | *142 | | 78 | | 27 | | 17 | | *105 | |
| 4 | | 5 | | *122 | | 58 | | 95 | | *143 | | 79 | | 44 | | 28 | | 106 | |
| 6 | | 9 | | 126 | | 59 | | 113 | | 16 | | 80 | | 45 | | 47 | | *107 | |
| 7 | | 10 | | *127 | | 60 | | 116 | | 19 | | 96 | | 46 | | 48 | | 108 | |
| 8 | | 12 | | 129 | | 61 | | *123 | | 20 | | 97 | | 49 | | 51 | | 109 | |
| 29 | | 33 | | 130 | | 62 | | 125 | | 22 | | 98 | | 50 | | 52 | | 110 | |
| 30 | | 34 | | 11 | | 63 | | 132 | | 42 | | 99 | | 83 | | 53 | | *144 | |
| 31 | | 36 | | 13 | | 65 | | *133 | | 43 | | *117 | | 84 | | 77 | | 145 | |
| 32 | | 37 | | 14 | | 67 | | 134 | | 66 | | 131 | | 85 | | 81 | | 146 | |
| 35 | | 39 | | 15 | | 68 | | *135 | | 71 | | 139 | | 86 | | *82 | | | |
| 111 | | 54 | | 18 | | 69 | | *136 | | 72 | | 21 | | 87 | | *88 | | | |
| 112 | | 55 | | 38 | | 70 | | 137 | | 73 | | 23 | | 100 | | 89 | | | |
| 118 | | 64 | | 40 | | 91 | | 138 | | 74 | | 24 | | 101 | | 90 | | | |

* Skill not developed in textbook series but should be taught.

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## KENNEDY KIT STUDENT PROFILE CARD
Scott Foresman, Mathematics Around Us
Form 6

Student Name ______________________ Date Started ______________________

| No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | 115 | | 34 | | 40 | | *142 | | *141 | | *97 | | *20 | | 24 | | 103 | |
| 29 | | 113 | | 35 | | *120 | | 16 | | *143 | | 98 | | 43 | | 27 | | 105 | |
| 2 | | 114 | | *128 | | 14 | | 11 | | 63 | | 77 | | 131 | | 46 | | 100 | |
| 30 | | 5 | | 36 | | 15 | | 42 | | 74 | | 81 | | 25 | | 47 | | 109 | |
| 3 | | 121 | | 37 | | 41 | | 59 | | 66 | | 79 | | 49 | | 48 | | 145 | |
| 31 | | 33 | | 129 | | 38 | | 60 | | 67 | | 17 | | 21 | | 50 | | 146 | |
| 6 | | 127 | | 64 | | 130 | | 61 | | *68 | | *75 | | *45 | | 51 | | 110 | |
| 111 | | 126 | | 132 | | 58 | | 62 | | *69 | | 76 | | *117 | | 85 | | 106 | |
| 4 | | 7 | | 54 | | 57 | | 134 | | 70 | | 78 | | 82 | | 86 | | 107 | |
| 118 | | 122 | | 55 | | 136 | | 65 | | *71 | | 80 | | 99 | | 87 | | 108 | |
| 32 | | 116 | | 56 | | 91 | | 137 | | *72 | | 104 | | 19 | | 83 | | *144 | |
| 124 | | 123 | | 18 | | 138 | | 135 | | 73 | | 28 | | 44 | | 84 | | | |
| 112 | | 9 | | 12 | | 133 | | 93 | | 101 | | 52 | | 26 | | 88 | | | |
| 119 | | 10 | | 13 | | 139 | | 94 | | 95 | | 53 | | 22 | | 89 | | | |
| 125 | | *8 | | 39 | | 92 | | 140 | | *96 | | 102 | | 23 | | 90 | | | |

* Skill not developed in textbook series but should be taught. CVCSD/A161(118 )6-77

## KENNEDY KIT STUDENT PROFILE CARD
Scott Foresman, Mathematics Around Us
Form 7

Student Name ______________________ Date Started ______________________

| No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | 125 | | 40 | | 129 | | 63 | | 95 | | *142 | | 78 | | 46 | | 100 | |
| 2 | | 5 | | 54 | | 132 | | 65 | | *96 | | *143 | | 79 | | 47 | | 103 | |
| 3 | | 7 | | 55 | | 11 | | 66 | | *97 | | 17 | | 80 | | 48 | | 105 | |
| 4 | | *8 | | 56 | | 14 | | 67 | | 98 | | *20 | | 81 | | 50 | | 106 | |
| 6 | | 9 | | 64 | | 15 | | *68 | | 101 | | 21 | | 102 | | 51 | | 107 | |
| 29 | | 10 | | 113 | | 16 | | *69 | | 130 | | 25 | | 104 | | 82 | | 108 | |
| 30 | | 12 | | 114 | | 38 | | 70 | | 133 | | 28 | | *117 | | 83 | | 109 | |
| 31 | | 13 | | 116 | | 41 | | *71 | | 134 | | 43 | | 131 | | 84 | | 110 | |
| 32 | | 18 | | *120 | | 42 | | *72 | | 135 | | *45 | | 19 | | 85 | | *144 | |
| 111 | | 33 | | 121 | | 57 | | 73 | | 136 | | 49 | | 22 | | 86 | | 145 | |
| 112 | | 34 | | 122 | | 58 | | 74 | | 137 | | 52 | | 23 | | 87 | | 146 | |
| 115 | | 35 | | 123 | | 59 | | 91 | | 138 | | 53 | | 24 | | 88 | | | |
| 118 | | 36 | | 126 | | 60 | | 92 | | 139 | | *75 | | 26 | | 89 | | | |
| 119 | | 37 | | 127 | | 61 | | 93 | | 140 | | 76 | | 27 | | 90 | | | |
| 124 | | 39 | | *128 | | 62 | | 94 | | *141 | | 77 | | 44 | | 99 | | | |

* Skill not developed in textbook series but should be taught. CVCSD/A161(119 )6-77

## KENNEDY KIT STUDENT PROFILE CARD
Holt, Rinehart and Winston, Holt School Mathematics
Form 8

Student Name ______________________ Date Started ______________________

| No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | 118 | | 120 | | 133 | | 59 | | 71 | | 142* | | 25 | | 50 | | 89 | |
| 29 | | 32 | | 115 | | 116 | | 93 | | 72 | | 143* | | 49 | | 51 | | 88 | |
| 6 | | 5 | | 122 | | 123 | | 60 | | 73 | | 81 | | 20 | | 85 | | 106 | |
| 2 | | 114 | | 12 | | 13 | | 61 | | 96 | | 79 | | 21 | | 86 | | 107 | |
| 30 | | 121 | | 39 | | 14 | | 62 | | 97 | | 74 | | 22 | | 87 | | 108 | |
| 8 | | 33 | | 9 | | 15 | | 94 | | 95 | | 75 | | 45* | | 83 | | 109 | |
| 35 | | 125 | | 10 | | 11 | | 65 | | 98 | | 76 | | 131* | | 84 | | 110 | |
| 7 | | 126 | | 36 | | 17 | | 134 | | 99 | | 80 | | 117* | | 28 | | 145 | |
| 128 | | 127 | | 37 | | 18 | | 135 | | 16 | | 78 | | 77 | | 52 | | 146 | |
| 34 | | 54 | | 130 | | 40 | | 140 | | 42 | | 100 | | 82 | | 53 | | 90 | |
| 3 | | 56 | | 129 | | 41 | | 63 | | 68 | | 101 | | 103 | | 26 | | 144* | |
| 31 | | 64 | | 55 | | 38 | | 66 | | 136* | | 102 | | 105 | | 48 | | | |
| 111 | | 124 | | 58 | | 91 | | 67 | | 137* | | 23 | | 104 | | 24 | | | |
| 4 | | 113 | | 57 | | 92 | | 69 | | 139* | | 19 | | 44 | | 46 | | | |
| 112 | | 119 | | 132 | | 138 | | 70 | | 141* | | 43 | | 27 | | 47 | | | |

* Skill not developed in textbook series but should be taught. CVCSD/A161(120 )6-77

## KENNEDY KIT STUDENT PROFILE CARD
Holt, Rinehart and Winston, Holt School Mathematics
Form 9

Student Name ______________________ Date Started ______________________

| No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date | No. | Date |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | 54 | | 12 | | 133 | | 62 | | 95 | | 142* | | 79 | | 50 | | 88 | |
| 2 | | 56 | | 36 | | 11 | | 63 | | 96 | | 143* | | 80 | | 51 | | 89 | |
| 3 | | 64 | | 37 | | 13 | | 65 | | 97 | | 19 | | 81 | | 52 | | 90 | |
| 4 | | 111 | | 39 | | 14 | | 66 | | 98 | | 20 | | 100 | | 53 | | 106 | |
| 5 | | 112 | | 55 | | 15 | | 67 | | 99 | | 21 | | 101 | | 77 | | 107 | |
| 6 | | 114 | | 57 | | 16 | | 68 | | 116 | | 22 | | 102 | | 82 | | 108 | |
| 7 | | 118 | | 58 | | 17 | | 69 | | 123 | | 23 | | 117* | | 83 | | 109 | |
| 8 | | 121 | | 113 | | 18 | | 70 | | 134 | | 25 | | 131* | | 84 | | 110 | |
| 29 | | 124 | | 115 | | 38 | | 71 | | 135 | | 43 | | 24 | | 85 | | 144* | |
| 30 | | 125 | | 119 | | 40 | | 72 | | 136* | | 45* | | 26 | | 86 | | 145 | |
| 31 | | 126 | | 120 | | 41 | | 73 | | 137* | | 49 | | 27 | | 87 | | 146 | |
| 32 | | 127 | | 122 | | 42 | | 91 | | 138 | | 74 | | 28 | | 103 | | | |
| 33 | | 128 | | 129 | | 59 | | 92 | | 139* | | 75 | | 44 | | 104 | | | |
| 34 | | 9 | | 130 | | 60 | | 93 | | 140 | | 76 | | 46 | | 105 | | | |
| 35 | | 10 | | 132 | | 61 | | 94 | | 141* | | 78 | | 48 | | 47 | | | |

* Skill not developed in textbook series but should be taught. CVCSD/A161(121 )6-77

# CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
## KENNEDY KIT COMPUTATION ("C") CARDS
## GRADE LEVELS AT WHICH SKILLS ARE DEVELOPED INITIALLY

Houghton Mifflin: Mathematics for Individual Achievement (1974)

| Grade 1 | Grade 2 | Grade 3 | Grade 4 | Grade 5 | Grade 6 |
|---|---|---|---|---|---|
| 1 | 5 | 11 | 16 | 21 | 17 |
| 2 | 9 | 13 | 19 | 23 | 28 |
| 3 | 10 | 14 | 20 | 24 | 47 |
| 4 | 12 | 15 | 22 | 25 | 48 |
| 6 | 33 | 18 | 42 | 26 | 51 |
| 7 | 34 | 38 | 43 | 27 | 52 |
| 8 | 36 | 40 | 66 | 44 | 53 |
| 29 | 37 | 41 | 71 | 45 | 77 |
| 30 | 39 | 56 | 72 | 46 | 81 |
| 31 | 54 | 57 | 73 | 49 | 82* |
| 32 | 55 | 58 | 74 | 50 | 88* |
| 35 | 64 | 59 | 75 | 83 | 89 |
| 111 | 114 | 60 | 76 | 84 | 90 |
| 112 | 120* | 61 | 78 | 85 | 102 |
| 118 | 121 | 62 | 79 | 86 | 103* |
| 119* | 122* | 63 | 80 | 87 | 105* |
| 124 | 126 | 65 | 96 | 100 | 106 |
| 128 | 127* | 67 | 97 | 101 | 107* |
| Total: 18 | 129 | 68 | 98 | 104 | 108 |
| | 130 | 69 | 99 | 115 | 109 |
| | Total: 20 | 70 | 117* | Total: 20 | 110 |
| | | 91 | 131 | | 144* |
| | | 92 | 139 | | 145 |
| | | 93 | Total: 23 | | 146 |
| | | 94 | | | Total: 24 |
| | | 95 | | | |
| | | 113 | | | |
| | | 116 | | | |
| | | 123* | | | |
| | | 125 | | | |
| | | 132 | | | |
| | | 133* | | | |
| | | 134 | | | |
| | | 135* | | | |
| | | 136* | | | |
| | | 137 | | | |
| | | 138 | | | |
| | | 140 | | | |
| | | 141* | | | |
| | | 142* | | | |
| | | 143* | | | |
| | | Total: 41 | | | |

* Skill not developed in textbook series but should be taught.

# CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
# KENNEDY KIT COMPUTATION ("C") CARDS
# GRADE LEVELS AT WHICH SKILLS ARE DEVELOPED INITIALLY

Scott Foresman: Mathematics Around Us (1975)

| Grade 1 | Grade 2 | Grade 3 | Grade 4 | Grade 5 | Grade 6 |
|---|---|---|---|---|---|
| 1 | 5 | 11 | 17 | 19 | 100 |
| 2 | 7 | 14 | 20* | 22 | 103 |
| 3 | 8* | 15 | 21 | 23 | 105 |
| 4 | 9 | 16 | 25 | 24 | 106 |
| 6 | 10 | 38 | 28 | 26 | 107 |
| 29 | 12 | 41 | 43 | 27 | 108 |
| 30 | 13 | 42 | 45* | 44 | 109 |
| 31 | 18 | 57 | 49 | 46 | 110 |
| 32 | 33 | 58 | 52 | 47 | 144* |
| 111 | 34 | 59 | 53 | 48 | 145 |
| 112 | 35 | 60 | 75* | 50 | 146 |
| 115 | 36 | 61 | 76 | 51 | Total: 11 |
| 118 | 37 | 62 | 77 | 82 | |
| 119 | 39 | 63 | 78 | 83 | |
| 124 | 40 | 65 | 79 | 84 | |
| 125 | 54 | 66 | 80 | 85 | |
| Total: 16 | 55 | 67 | 81 | 86 | |
| | 56 | 68* | 102 | 87 | |
| | 64 | 69* | 104 | 88 | |
| | 113 | 70 | 117* | 89 | |
| | 114 | 71* | 131 | 90 | |
| | 116 | 72* | Total: 21 | 99 | |
| | 120* | 73 | | Total: 22 | |
| | 121 | 74 | | | |
| | 122 | 91 | | | |
| | 123 | 92 | | | |
| | 126 | 93 | | | |
| | 127 | 94 | | | |
| | 128* | 95 | | | |
| | 129 | 96* | | | |
| | 132 | 97* | | | |
| | Total: 31 | 98 | | | |
| | | 101 | | | |
| | | 130 | | | |
| | | 133 | | | |
| | | 134 | | | |
| | | 135 | | | |
| | | 136 | | | |
| | | 137 | | | |
| | | 138 | | | |
| | | 139 | | | |
| | | 140 | | | |
| | | 141* | | | |
| | | 142* | | | |
| | | 143* | | | |
| | | Total: 45 | | | |

* Skill not developed in textbook series but should be taught.

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# CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
# KENNEDY KIT COMPUTATION ("C") CARDS
# GRADE LEVELS AT WHICH SKILLS ARE DEVELOPED INITIALLY

Holt, Rinehart, Winston: Holt School Mathematics (1974)

| Grade 1 | Grade 2 | Grade 3 | Grade 4 | Grade 5 | Grade 6 |
|---|---|---|---|---|---|
| 1 | 9 | 11 | 19 | 24 | 47 |
| 2 | 10 | 13 | 20 | 26 | 88 |
| 3 | 12 | 14 | 21 | 27 | 89 |
| 4 | 36 | 15 | 22 | 28 | 90 |
| 5 | 37 | 16 | 23 | 44 | 106 |
| 6 | 39 | 17 | 25 | 46 | 107 |
| 7 | 55 | 18 | 43 | 48 | 108 |
| 8 | 57 | 38 | 45* | 50 | 109 |
| 29 | 58 | 40 | 49 | 51 | 110 |
| 30 | 113 | 41 | 74 | 52 | 144* |
| 31 | 115 | 42 | 75 | 53 | 145 |
| 32 | 119 | 59 | 76 | 77 | 146 |
| 33 | 120 | 60 | 78 | 82 | |
| 34 | 122 | 61 | 79 | 83 | |
| 35 | 129 | 62 | 80 | 84 | |
| 54 | 130 | 63 | 81 | 85 | |
| 56 | 132 | 65 | 100 | 86 | |
| 64 | 133 | 66 | 101 | 87 | |
| 111 | | 67 | 102 | 103 | |
| 112 | | 68 | 117* | 104 | |
| 114 | | 69 | 131* | 105 | |
| 118 | | 70 | | | |
| 121 | | 71 | | | |
| 124 | | 72 | | | |
| 125 | | 73 | | | |
| 126 | | 91 | | | |
| 127 | | 92 | | | |
| 128 | | 93 | | | |
| | | 94 | | | |
| | | 95 | | | |
| | | 96 | | | |
| | | 97 | | | |
| | | 98 | | | |
| | | 99 | | | |
| | | 116 | | | |
| | | 123 | | | |
| | | 134 | | | |
| | | 135 | | | |
| | | 136* | | | |
| | | 137* | | | |
| | | 138 | | | |
| | | 139* | | | |
| | | 140 | | | |
| | | 141* | | | |
| | | 142* | | | |
| | | 143* | | | |
| Total: 28 | Total: 18 | Total: 46 | Total: 21 | Total: 21 | Total: 12 |

* Skill not developed in textbook series but should be taught.

# CHULA VISTA DIAGNOSTIC MATHEMATICS PROGRAM
# KENNEDY KIT COMPUTATION ("C") CARDS
# GRADE LEVELS AT WHICH SKILLS ARE DEVELOPED INITIALLY

## Summary For Three Textbook Series
## Houghton Mifflin, Scott Foresman, Holt

| Textbook Series | Number of Skills Introduced | | | | | | Number of Skills Not Introduced* |
|---|---|---|---|---|---|---|---|
| | Grade 1 | Grade 2 | Grade 3 | Grade 4 | Grade 5 | Grade 6 | |
| Houghton Mifflin | 18 | 20 | 41 | 23 | 20 | 24 | 18 |
| Scott Foresman | 16 | 31 | 45 | 21 | 22 | 11 | 17 |
| Holt Rinehart Winston | 28 | 18 | 46 | 21 | 21 | 12 | 10 |

*Some of the skills not introduced by the State textbooks have to do with skills that are measured on standardized tests, e.g., Skill 117: Addition, basic facts through 18, use of parentheses and 3 addends on each side of missing relations symbol: $(4 + 4) + 3 \bigcirc 3 + (6 + 5)$. Others often deal with an isolated skill that is not treated separately by a text, e.g., Skill 68: Multiplication, 2-digit by 1-digit, multiplicand between 10 and 20, no renaming: $\begin{array}{r} 11 \\ \underline{\times\ 9} \end{array}$

CHULA VISTA CITY SCHOOL DISTRICT

# PART IV
# MATHEMATICS PRESCRIPTION

**BOARD OF EDUCATION**

Gloria A. Johnson, President
Jon M. Miller, Vice President
Joseph D. Cummings, Clerk
Judith L. Bauer, Member
Peter J. Watry Jr., Member

Superintendent
Dr. Leonard N. Servetter

June 1977

TM 009 981 (4 OF 4)

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by

Chula Vista City School District
Chula Vista, California 92010

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Robbie Stewart, Sylvia Zavala, Jack Stowers

Typists

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Linda Rolfe
Pat Schmautz

# CHULA VISTA PRESCRIPTIVE MATHEMATICS PROGRAM

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## CHULA VISTA PRESCRIPTIVE MATHEMATICS PROGRAM

School ____________ Person Completing Form ____________ Date ____________

## ORDER FORM

(When ordering, use this form; return to Publications.
One person should coordinate the school order.)

| | | |
|---|---|---|
| _____ | A161(157A,B) | Order Form |
| _____ | A161(158) | Points to Consider When Observing a Mathematics Program |
| _____ | A161(127) | District Handwriting Guide for Numerals |
| _____ | A161(128) | Counting 1 - 9 |
| _____ | A161(129) | Numerals 0 - 9 |
| _____ | A161(130) | Counting 1 - 99 |
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| _____ | A161(132) | Tens and Ones |
| _____ | A161(133) | Digit Deal |
| _____ | A161(134) | Greater Than, Less Than, Equal To |
| _____ | A161(135) | Use Counters to Add With Regrouping |
| _____ | A161(136) | Use Counters to Subtract With Regrouping |
| _____ | A161(137) | Invicta Balance Activity - Multiplication Facts |
| _____ | A161(138) | Division - Repeated Subtraction |
| _____ | A161(139) | Division With Beans and Cups |
| _____ | A161(140) | Multiply to Find The Dividends |
| _____ | A161(141) | Fraction Chart |
| _____ | A161(142) | Fraction Relationships - Cuisenaire Rods |
| _____ | A161(143) | Fraction Grid |
| _____ | A161(144) | 55 Addition Facts (Sums through 9) |
| _____ | A161(145) | 55 Subtraction Facts (0 - 9) |
| _____ | A161(146) | 64 Addition Facts (Sums through 10) |
| _____ | A161(147) | 64 Subtraction Facts (0 - 10) |
| _____ | A161(148) | 79 Addition Facts (Sums through 12) |
| _____ | A161(149) | 79 Subtraction Facts ( 0 - 12) |
| _____ | A161(150) | 100 Addition Facts |
| _____ | A161(151) | 100 Subtraction Facts |
| _____ | A161(152) | Multiplication - (2's, 3's, 5's) |
| _____ | A161(153) | Division - (2's, 3's, 5's) |
| _____ | A161(154) | 100 Multiplication Facts |
| _____ | A161(155) | 90 Division Facts |
| _____ | A161(156) | Guide for Making Cookie or Clay Numerals (0 - 9) |

## ORDER FORM (Cont.)

| | | |
|---|---|---|
| _____ | A161(159) | Quick Drill Class Record Level K-1 (Tests A-P) |
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| _____ | A161(162) | Quick Drill Class Record Level II Part 1(Tests 41-60) |
| _____ | A161(163) | Quick Drill Class Record Level II Part 2(Tests 61-80) |
| _____ | A161(164) | Quick Drill Class Record Level III Part 1(Tests 81-100) |
| _____ | A161(165) | Quick Drill Class Record Level III Part 2(Tests 101-120) |
| _____ | A161(166) | Quick Drill Class Record Level IV Part 1(Tests 121-140) |
| _____ | A161(167) | Quick Drill Class Record Level IV Part 2(Tests 141-160) |
| _____ | A161(168) | Quick Drill Class Record Level V Part 1(Tests 161-180) |
| _____ | A161(169) | Quick Drill Class Record Level V Part 2(Tests 181-200) |
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# CHULA VISTA PRESCRIPTIVE MATHEMATICS PROGRAM

The Rosebank Title IV Part C Project, Individual Diagnosis and Prescription for a Total School, is a monitoring/management system in mathematics and reading for elementary school teachers to use in their classrooms. The Project was created by District Education Center staff members and implemented by Project personnel at two schools, Rosebank Elementary (1974-1977) and Valley Vista Elementary (1976-1977).

The monitoring/management system is composed of four parts:

I. Reading Diagnosis
II. Reading Prescription
III. Mathematics Diagnosis
IV. Mathematics Prescription

Part III, Mathematics Diagnosis provides the classroom teacher with inventories (tests), record sheets and suggestions for their use in diagnosing needs and monitoring growth of children in Kindergarten through Grade 6. This section, Part IV, Mathematics Prescription, provides the necessary follow-up for Part III. It contains a wide variety of prescriptive methods, materials and references for meeting pupils' needs. Although it was prepared specifically to meet the needs of the Project it also meets many of the needs of the District as a whole including the requirements for Early Childhood Education, and the objectives in the Mathematics Framework for California Public Schools (Sacramento, 1975) and the California Assessment Program for Grade 6.

This book is intended as a sourcebook which has no end. It will be added to as new sections are completed and, as sections become obsolete (for example, page references), they will be removed and replaced by revisions.

Part IV is composed of the following sections.

A. Overview of Mathematics Instruction
B. Activities for Prevention and Remediation of Learning Difficulties
C. Suggestions for Open-Ended Games
D. Learning Centers
E. Quick Drill Program

## Chula Vista Prescriptive Mathematics Program (Cont.)

F. Textbook Page References* for Computation Inventory Items in Kennedy Kit

G. Textbook Page References* for Computation Inventory Items not in Kennedy Kit

H. Textbook Page References* for Concepts and Applications Inventory Items

I. Error Analysis in Computation

* These textbook page references are for the four basic texts currently in use at Grades K - 6 by the District: Mathematics for Individual Achievement (Houghton Mifflin, 1974), Mathematics Around Us (Scott, Foresman, 1975), Holt School Mathematics (Holt, Rinehart and Winston, 1974), and Matemática de Silver Burdett (General Learning, 1974).

# OVERVIEW OF MATHEMATICS INSTRUCTION

Children should have mathematical experiences which help them become citizens capable of processing information intelligently, competent to make wise choices and confident to face the many everyday situations involving mathematics.

Mastery of the basic computational skills is very important for children; however, computational skills are only part of the basic skills in mathematics. The ability to compute by itself is not sufficient to produce intelligent, productive and satisfied participants in society. Society also requires other basic mathematics skills such as estimating, solving problems, organizing and interpreting data, measuring, predicting, and applying mathematics in countless other ways. Therefore the mathematics concepts, skills and applications included in this Project are based upon the following basic mathematical strands.

1. Arithmetic, Numbers and Operations
2. Geometry
3. Measurement
4. Problem Solving; Applications
5. Probability and Statistics
6. Relations and Functions
7. Logical Thinking

## Individualizing Instruction

Learning is an individual experience. Therefore, a sound program in mathematics must take into consideration the individual differences in the experiences, knowledges and skills of the learner. However, individualizing instruction does not mean a child working alone, separated from his peers, assigned something different to do. Individualizing instruction does mean that each child has the opportunity to respond differently. This response may be in a class, group or an individual setting; there should be provision for all three types of instruction in the classroom.

By using Part III, Mathematics Diagnosis and Part IV, Mathematics Prescription, individual needs can be determined and instructional groups formed to meet common needs. Such instructional groups composed of students with like needs should be made whenever possible. Their purpose is to meet very specific needs; every pupil should be in at least one.

Individualizing Instruction (cont.)

Once these needs have been met these particular groups are disbanded and new ones are formed in their place, again based on common instructional needs of students. In this way prescriptions can be selected to meet both group and individual needs. Individualizing instruction, then, is accomplished through flexible instructional groups which are constantly changing. The resulting instructional program is sound, having built upon the known to lead toward understanding and mastery of new skills and concepts.

It is extremely important that all students, regardless of their instructional level in mathematics, receive instruction and guidance from the teacher on a scheduled basis. This instruction may be in an individual, group or class setting and would vary as needed.

## Methods of Instruction

There are many different approaches, activities and materials used in developing mathematical skills and concepts. However, since experience is the basis for all learning, a wide variety of experiences should be available to children in order for them to understand mathematics and apply skills and concepts. Children should first have the opportunity to work with many concrete, manipulative objects in diverse situations. These experiences should be followed with activities involving representations or pictures of the objects, and then by abstract mathematical symbols. As children and teachers relate these three types of experiences, the manipulative, visual and abstract, they are able to work through each student's strongest senses and learning styles.

The steps to follow in teaching mathematics skills are:

1. Pretest
2. Instruct
3. Reinforce (includes practice and drill)
4. Provide opportunities to apply
5. Posttest

Step 2, Instruct, is extremely important. If it is omitted, practice and/or drill can do more harm than good. Pupils may simply practice an error and become very good at it or they may not be able to do the prescribed practice and, consequently, waste valuable learning time. The prescriptive page references and activities in this book should help teachers plan instruction for the skills and concepts in all the inventories.

Step 5, Posttest, may be done in a variety of ways. If a pupil is working on a single skill or even a few skills, the posttest can be informal (oral or written, consisting of a few problems, etc., perhaps a Kennedy Kit card) or more structured. Some teachers like to posttest individual skills as they are mastered. Others prefer to wait awhile and administer the appropriate inventory again; still others wait longer and check mastery when they next give the appropriate inventory at its regularly scheduled time. Selecting which method(s) to use is up to the teacher since he/she is the one who knows the pupil and plans the instructional program.

## Applying Mathematics

Children who are able to apply mathematics concepts and skills are obviously better able to become productive, satisfied students and citizens. However, as reported by the National Assessment Study in 1977, although children have the necessary mathematical skills and concepts, they often are unable to apply these in everyday situations. In order to help children learn to apply mathematics it is very helpful if teachers:

- point out to children how they are using and applying mathematics each day in the classroom, on the playground, during lunch, etc.; encourage children to look for and share these experiences.
- provide daily oral/aural mathematics activities (mental arithmetic, What's my rule?, games, etc.)
- provide mathematics activities which emphasize applying mathematics (set up "store", banking, checking, savings accounts; use newspapers for ads to find best buys; estimate and measure objects, physical education events, etc.)
- assess problem solving skills to determine strengths and weaknesses; set up appropriate skill groups based on needs; use related section in Activities for Prevention and Remediation of Learning Difficulties in this book for suggested experiences.

Applying Mathematics (cont.)

-adjust or change skill groups to provide for needed problem solving instruction and activities.

-provide or have pupils involved in special mathematics activities such as math field days, contests, etc.

-help children learn a variety of problem solving strategies (see related section in Activities for Prevention and Remediation of Learning Difficulties).

-encourage children to ask questions, to investigate...to identify problem situations.

-encourage parents to share with children how they as adults use mathematics in their jobs and daily lives.

## Classroom Learning Climate

The learning climate in the mathematics classroom should encourage the natural curiosity and interest of children so that they become self-motivated, self-directed learners. Therefore, the teacher becomes a guide who directs learners to explore, investigate, estimate and solve everyday, realistic child-oriented problems. The checksheet on the following page, Points To Consider When Observing A Mathematics Program, may be of help in determining the learning environment in the mathematics classroom.

## POINTS TO CONSIDER WHEN OBSERVING A MATHEMATICS PROGRAM

| | Not Implemented | Partially Implemented | Fully Implemented |
|---|---|---|---|
| 1. Is there a pupil monitoring/management system in computation? | | | |
| 2. Is there a pupil monitoring/management system in concepts and applications? | | | |
| 3. Is there evidence of a total mathematics program (geometry, measurement, problem solving, etc.)? | | | |
| 4. Does each pupil receive math instruction from the teacher on a regularly scheduled basis? | | | |
| 5. Are the math lessons prepared thoroughly? | | | |
| 6. Is mathematics instruction based on flexible grouping? | | | |
| 7. Are manipulative materials used for concept development and reinforcement? | | | |
| 8. Are manipulative materials appropriate for the age and development of the children? | | | |
| 9. Are children involved in choosing appropriate materials? | | | |
| 10. Do primary grade children spend no more than 50 percent of their math time with paper and pencil activities? | | | |
| 11. Does the classroom climate stimulate children to learn? | | | |
| 12. Is there open communication between teachers and children during math? | | | |
| 13. Are there evidences of math applications in real-life, classroom situations? | | | |
| 14. Are practice (and drill) activities interesting? | | | |
| 15. Is math integrated into the entire curriculum? | | | |
| 16. Do the children appear to enjoy math? | | | |
| 17. Is emphasis placed on error diagnosis and analysis rather than simply on correct answers? | | | |
| 18. Are children responsible for managing tasks? | | | |
| 19. Do children receive instruction in oral, mental arithmetic, math dictation and math recording skills? | | | |
| 20. Is an appropriate amount of time each day devoted to math? (Weekly minimum number of minutes: Gr. 1, 150; Gr. 2, 175; Gr. 3, 200; Gr. 4 - 6, 225) | | | |
| Other | | | |

## ACTIVITIES FOR PREVENTION AND REMEDIATION OF LEARNING DIFFICULTIES

District teachers were asked to list the common learning difficulties experienced by their pupils so that activities could be prepared and compiled which would help prevent or remedy these. Assistance was requested on the following skills and concepts.

1. Recognize patterns and sequences
2. Recognize, count and write numerals 0 - 9
3. Understand place value
4. Identify and use relation symbols
5. Add and subtract with regrouping
6. Learn basic multiplication facts
7. Learn basic division facts
8. Show relationship between multiplication and division
9. Understand fractions that are greater than ( > ), less than ( < ), and equal to ( = )
10. Add and subtract fractions with like and unlike denominators
11. Multiply fractions
12. Learn and apply problem-solving skills and strategies to solve word problems and problems occurring in everyday situations
13. Basic Computational Facts Sheets

The activities accompanying these skills and concepts are suggestions only and by no means all inclusive. Many other methods, techniques and materials may be used. Teachers are requested to send in other activities so that they can be included in future revisions.

Since pupils have varying learning styles and some concepts and skills require a variety of presentations, it is suggested that teachers, as they look through the following activities to help plan their instructional program, select those most appropriate for their particular pupils and needs.

**Skill**: Recognize patterns and sequences

**Teacher Background**:

A pattern or sequence is an arrangement of repeated elements. A pattern can be an ordering of shapes, words, numbers or many other things. Can, ran, fan, man; □ ○ □ ○ ; 2, 4, 6, 8; are all examples of patterns.

Patterns are predictable; an arrangement must be repeated enough times so there is little doubt how to continue the pattern, e.g., △ ○ △ is not predictable because any shape could be next in the sequence. The pattern must be given at least twice: △ ○ △ ○

The sequence for learning about patterns should be presented in the following steps:

1. Recognize or identify a pattern.
2. Copy a pattern.
3. Continue a pattern.

Young children understand patterns intuitively at first; they are capable of recognizing or creating very sophisticated patterns before they are able to describe them in mathematical terms. There is a close connection between a pupil's ability to recognize patterns and to think logically. Therefore, it is important that pupils have a variety of experiences in identifying patterns and sequences as they progress through the grades.

If funds are available, such materials as centimeter rods, Pattern Blocks, Unifix Cubes and Attribute Blocks are useful commercial materials that lend themselves to making patterns and sequences and thus promote logical thinking. However, there are many inexpensive and easily obtainable materials that are helpful in teaching this skill.

**Activity I**: Recognize a pattern, copy and continue it with centimeter rods.

**Activity II**: Make patterns in sequence with string and beads.

**Activity III**: Make patterns with Attribute Blocks or Pattern Blocks.

**Activity I**: Recognize a pattern, copy and continue it with centimeter rods.

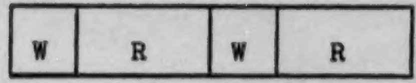
**Number of Participants**: Class, group or individual

**Materials**: Centimeter rods (1 set per pupil)

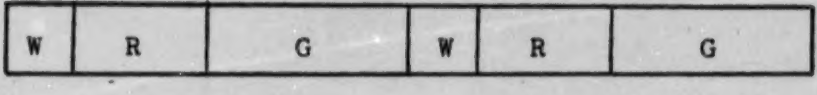
Note: It is very helpful to have a set of centimeter rods with magnetic tape adhered to them to use for demonstration purposes on a magnetic board.

**Procedure**: Teacher makes train (rods connected end to end) with rods of two different colors, e.g., white, red; white, red. Pupils identify pattern and copy it with their rods. Teacher directs pupils to continue pattern until all their white and red rods are used. Teacher observes pattern trains made by pupils and assists anyone having difficulty. Next, teacher makes train with rods of three different colors, e.g., white, red, green; white, red, green. Pupils identify pattern, copy it, and continue it with available rods. Activity is continued in like manner with patterns made more difficult or easier as needed.

2 Colors



3 Colors



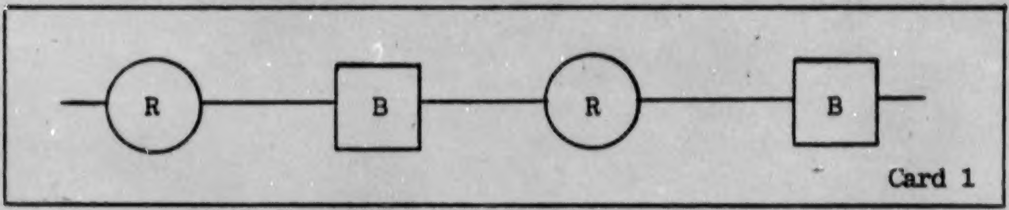
**Variation I**: Teacher or aide draws series of patterns on tagboard, colors them, and laminates to chipboard to use as task cards.

**Activity II**: Make patterns in sequence with string and beads.

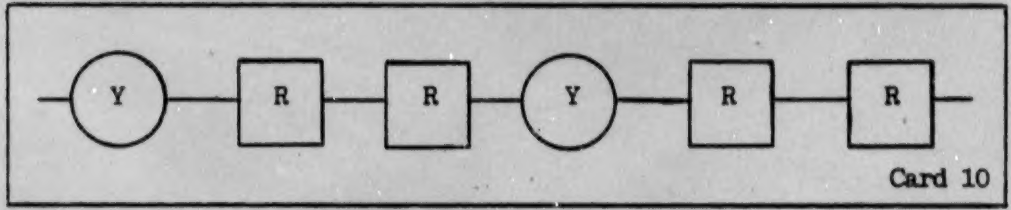
**Number of Participants**: Group or individual

**Materials**: Beads in quantity and in a variety of colors. Task cards with pictures of different patterns.

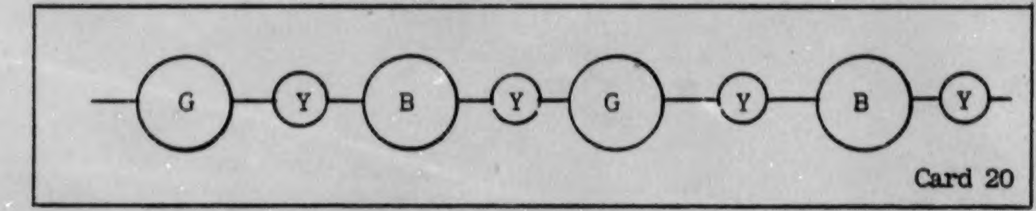
**Procedure**: Teacher draws a series of patterns on tagboard, colors them and laminates them to chipboard. Task cards are numbered in developmental sequence. Pupil(s) look at Card 1, identify pattern, select appropriate beads, copy pattern with beads on string and continue it. Teacher checks work. Activity is continued with Card 2, Card 3, etc.



Card 1



Card 10



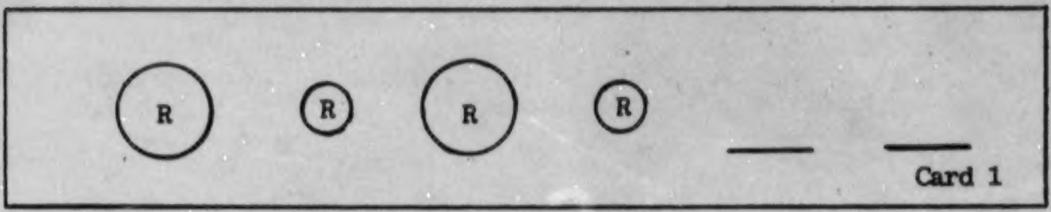
Card 20

**Activity III**: Make patterns with Attribute Blocks or Pattern Blocks.

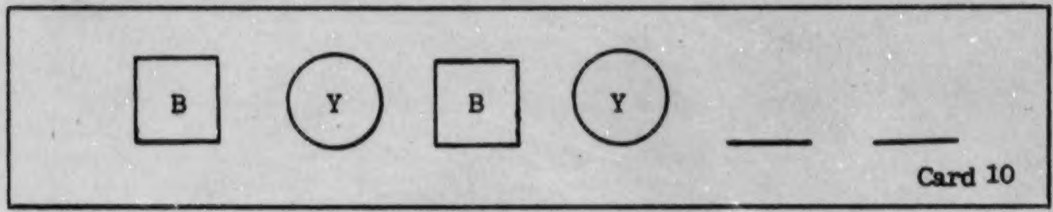
**Number of Participants**: Group or individual

**Materials**: Task cards; Attribute and Pattern Block stickers; Pattern Blocks, Attribute Blocks.

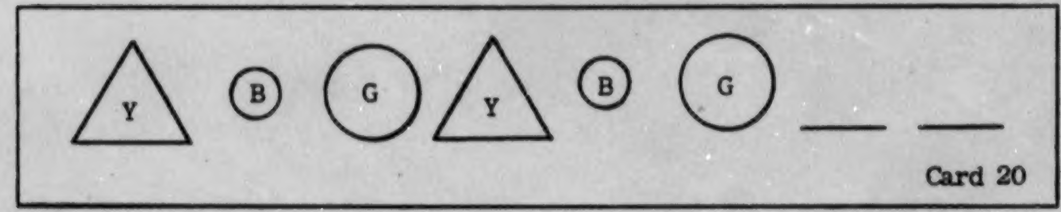
**Procedure**: Teacher uses stickers to make patterns on task cards and laminates them. Task cards are numbered in developmental sequences. Pupil(s) look at Card 1, identify pattern, select appropriate blocks, copy pattern and continue it. Activity is continued in like manner with Cards 2, 3, etc. It is suggested that a record sheet be provided for pupils to fill in as they finish a task card.



Card 1



Card 10



Card 20

B-6

Skill: Recognize, count and write numerals 0 - 9

Teacher Background:

Pupils should match number names (auditory) with numerals (visual) as well as use numbers in problem solving activities. Pupils should do lots of counting 1 - 9, and recognize and write numerals 0 - 9 (Activities I and II). When pupils first learn to write they should experience forming numerals in a variety of ways (Activities III - X).

Up/down and left/right directions are critical factors in writing numerals. Generally, pupils have been taught that shapes, items, etc. are the same no matter which direction they face, e.g., a diamond is a diamond this way ◊ or this way ◇. Contrary to this theory, it is acceptable for a five only to look like this 5 , not like Ƨ or ς . Pupils should have lots of experience observing, forming and writing numerals correctly. Reversals and writing numerals in wrong direction are two common errors.

It is important pupils have models to look at when writing numerals. Large size models should be placed at front of classroom for viewing by all pupils and/or small models placed at desks for individual viewing. Preferably, direction arrows and strokes made in contrasting colors should be on models pupils are using to copy from (Activity IV).

There are different ways to make some of the numerals. Chula Vista teachers should have pupils make their numerals like the models on the next page since these are from the state adopted materials.

The following activities are listed in developmental order when appropriate.

Activity I: Count objects 1 - 9 and match with corresponding numerals.

Activity II: String beads 0 - 9 and match with corresponding numerals.

Activity III: Listen to number names 0 - 9 while observing numerals being written; practice tracing numerals in air.

Activity IV: Make number lines 0 - 9 to be used for beginning number line activities.

Activity V: Make numerals 0 - 9 with cookie dough.

Activity VI: Become familiar with numerals 0 - 9 through sense of touch (kinesthetic).

Activity VII: Make numerals 0 - 9 with tactile materials (kinesthetic).

Activity VIII: Write numerals 0 - 9 with fingers.

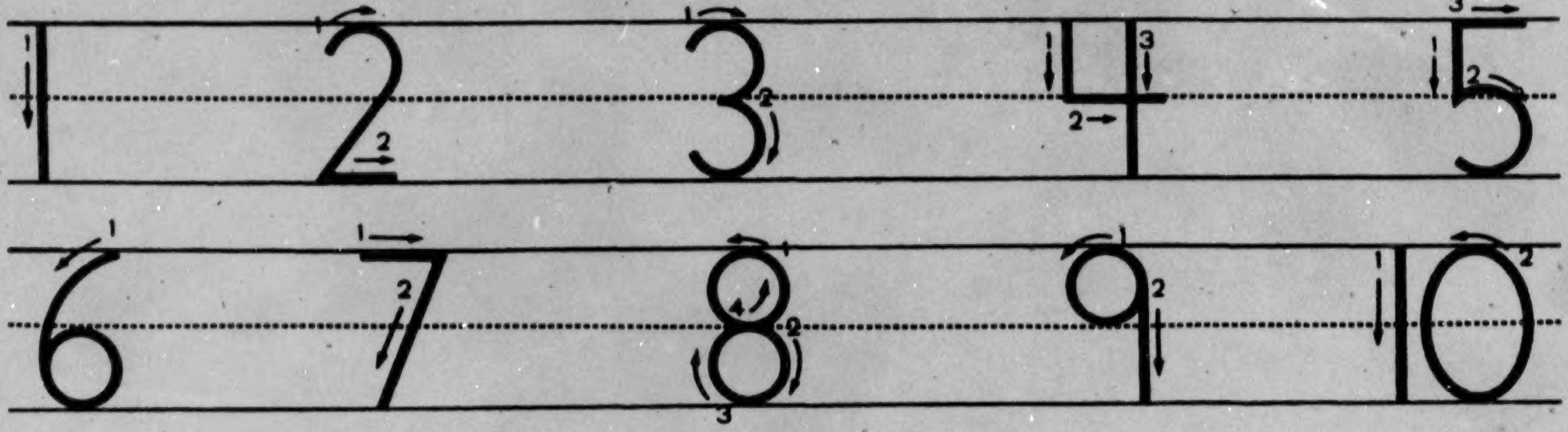
Activity IX: Write numerals 0 - 9 with pencil or crayon.

Activity X: Write numerals 0 - 9 after counting objects.

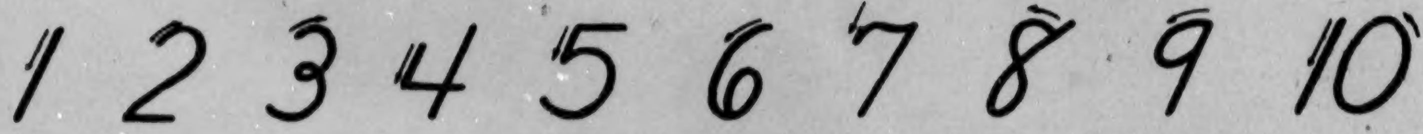
## CHULA VISTA CITY SCHOOL DISTRICT GUIDE

### Handwriting Guide for Numerals

### MANUSCRIPT



### CURSIVE



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B-7

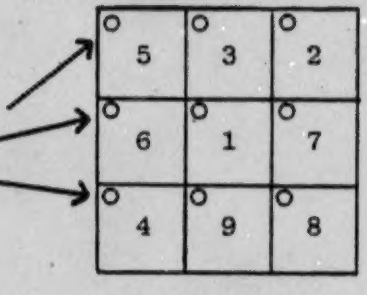
Activity I: Count objects 1 - 9 and match with corresponding numerals.

Number of Participants: Class

Materials: 9 sets of objects 1 - 9, duplicate worksheet on next page (1 per pupil). 9 counting stations, one checking station with answers, and stickers with 1 - 9 written on them (40 of each numeral).

Procedure: Arrange 9 stations around room and place sets of objects on pieces of colored paper using different color and different representation from 1 - 9 at each station. Have numbered stickers available at each station. If number of objects is 4 then stickers labeled 3, 4 and 5 should be available for pupils to select from. Each pupil has worksheet and colors each circle a different color using same 9 colors displayed at counting stations. Pupils rotate to each station, count objects, select sticker and place sticker in section of worksheet with color that corresponds with counting station. Rotation pattern should be predetermined to avoid confusion during activity. When pupils have completed all stations they go to checking station to see if answers are correct.

COUNTING 1-9



*Circles are colored by pupils.*

Sample Completed Worksheet

Extension I: Activity may be extended using same procedure except pupils write numerals 1 - 9. Activity should be done this way after pupils have had many lessons on writing numerals correctly.

Extension II: Place one numeral card 1 - 9 at each station and a container of counters. Pupils are paired to work together. One pupil of each pair counts number of objects designated by card and places objects on empty paper plate. Pupil's partner checks his/her work. Counter and checker roles are reversed at next counting station.

# COUNTING 1 - 9

Name: ______________________________

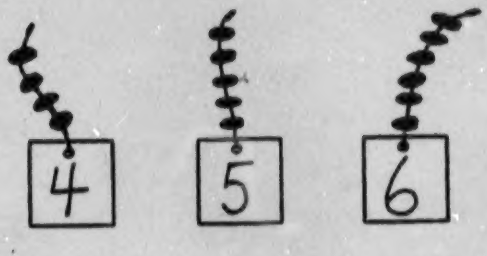
|  |  |  |
|---|---|---|
| ○ | ○ | ○ |
| ○ | ○ | ○ |
| ○ | ○ | ○ |

Activity II: String beads 0 - 9 and match with corresponding numeral.

Number of Participants: Individual

Materials: 10 pieces of 2" x 4" tagboard, 10 pieces of yarn, and a container of beads (minimum of 50)

Procedure: Teacher writes a numeral from 0 - 9 on each card, punches hole near top of each card and ties a piece of yarn through hole. Cards are placed at a center with container of beads. Pupils work in pairs, stringing correct number of beads. Partners check each other's work.

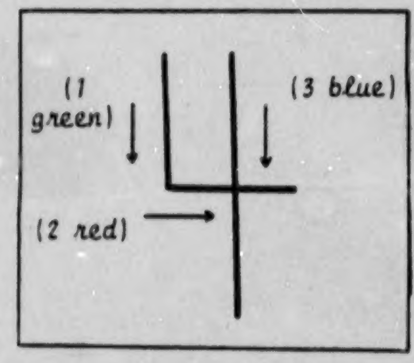


Activity III: Listen to number names 0 - 9 while observing numerals being written; practice tracing numerals in air.

Number of Participants: Class or group

Materials: Sheets of paper 12" x 18"; 3 crayons of contrasting colors

Procedure: Teacher writes numerals in sequence on chalkboard or paper in front of pupils and says each number name 0 - 9 as he or she writes it. In writing numerals, teacher uses different color for each stroke or change of direction, emphasizing how numerals are formed. Use colors that are visible from a distance. Numerals are left in front of room while pupils stand at least ten feet away and trace numerals in air with two fingers touching. Pupils trace first part of numeral as demonstrated by first color, followed by tracing second part of numeral as demonstrated by second color, etc. Each numeral should be traced five or six times in air.



*Make each stroke using a different color.*

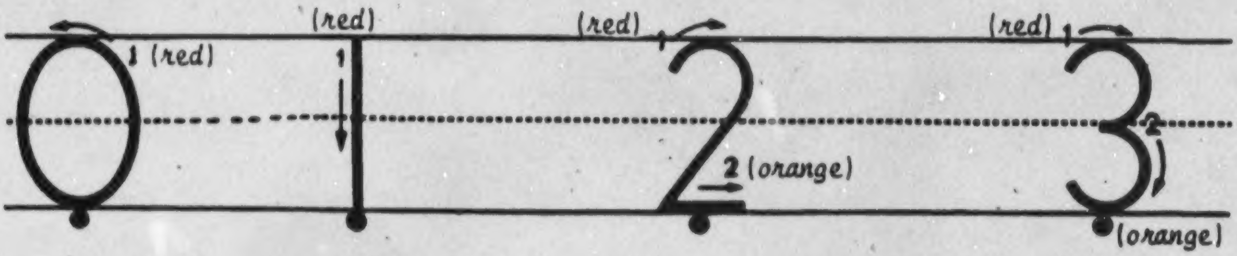
Activity IV: Make number lines 0 - 9 to be used as models for beginning number line activities.

Number of Participants: Class, group or individual

Materials: Sentence strips (1 per pupil), assortment of colored felt pens (wide point), one fine tip black felt pen and white glue (optional).

Note: It is suggested that teachers or aides do this activity since numerals are to be used as models for pupils to copy.

Procedure: First step: cut sentence strips in lengths appropriate for pupil desk space. Second step: teacher determines color sequence to be used with strokes, e.g., the following colors were selected to go with a kindergarten song: first stroke red, second stroke orange, third stroke yellow, fourth stroke green, etc. Third step: write numerals 0 - 9 at equal intervals on sentence strips using color sequence. Fourth step: write direction arrows in fine tip black pen on top of each colored stroke. Fifth step: add a heavy line and dots to make number line. Sixth step: laminate each strip and tape to pupil desks. (Instead of laminating, teacher may go over each stroke with a thin stream of white glue to give a raised effect (kinesthetic). When glue dries, colors and arrows are visible through glue.)



Note: Same color sequence could be used in making alphabet strokes.

Extension of Activity: When numerals 10 - 19 are introduced, the same color coding procedure could be used.

To write 10, use first color for 1, second color for 0; to write 11, use first color for 1 on the left, second color for 1 on the right, etc.

**Activity V**: Make numerals 0 - 9 with cookie dough.

**Number of Participants**:--Individual or group

**Materials**: Stiff cookie dough, worksheets of 3" numerals 0 - 9, waxed paper, toaster oven, or use of oven facilities in school cafeteria.

**Procedure**: Teacher duplicates worksheet on next page. Pupils roll dough in long thin rolls and form numerals on top of worksheets (covered with waxed paper), using numerals underneath as guides. Cookie numerals are baked and eaten by pupils.

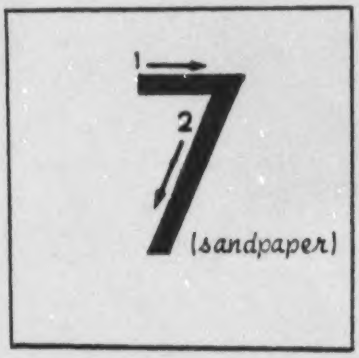
**Variation**: This activity may be done with clay instead of cookie dough.

**Activity VI**: Become familiar with numerals 0 - 9 through sense of touch (kinesthetic).

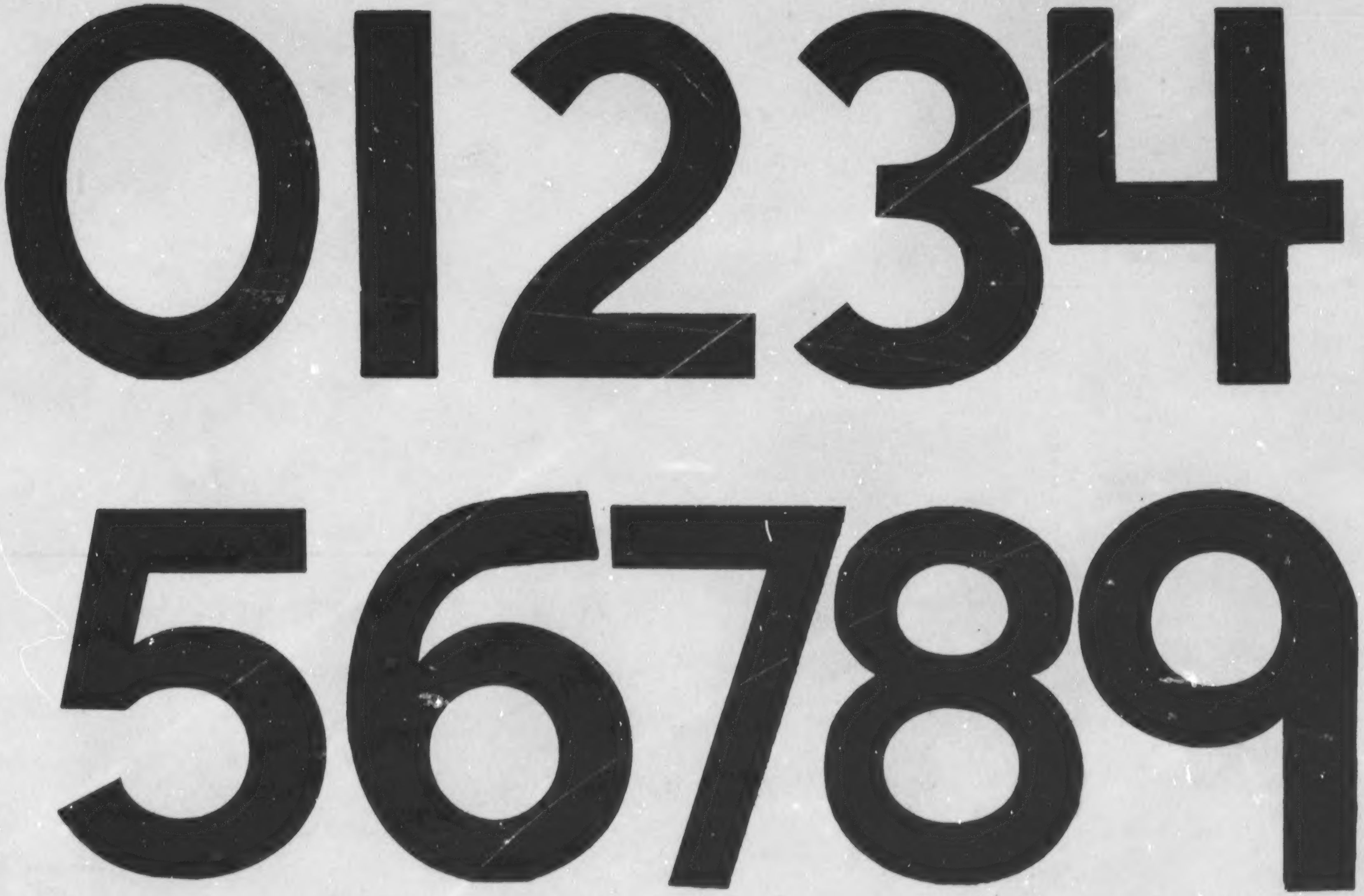
**Number of Participants**: Individual or group

**Materials**: 3" numerals, one each of 0 - 9, cut out of sandpaper or other tactile material and glued on separate pieces of cardboard. Teacher or aide makes sandpaper cutouts.

**Procedure**: Pupil traces each numeral with forefinger, then immediately writes each numeral.



## Guide for Making Cookie or Clay Numerals



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Activity VII: Make numerals 0 - 9 with tactile materials (kinesthetic)

Number of Participants:--Class, small group, or individual

Materials: Use pipe cleaners, yarn, cotton roving, or string. Paper cut to size for each numeral, and glue. Provide enough materials for each pupil to make complete set 0 - 9.

Procedure: Pupils use one of materials listed to make each numeral in correct form. Teacher checks before pupils glue forms to paper. After numerals dry, pupils trace numerals with their forefingers. Teacher writes directional arrows to use these numerals as models.

Activity VIII: Write numerals 0 - 9 with fingers.

Number of Participants: Class, small group, or individual

Materials: Fingerpaint and paper

Procedure: Write numerals during fingerpainting lesson.

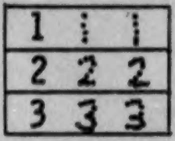
Variation: Put sand or salt in hosiery boxes. Pupils practice writing numerals in sand or salt.

Activity IX: Write numerals 0 - 9 with pencil or crayon.

Number of Participants:--Class, group, or individual

Materials: Duplicate worksheet with dotted numerals on next page (1 or more per pupil).

Procedure: Teacher says each numeral aloud as pupil traces over dotted numerals with pencil.

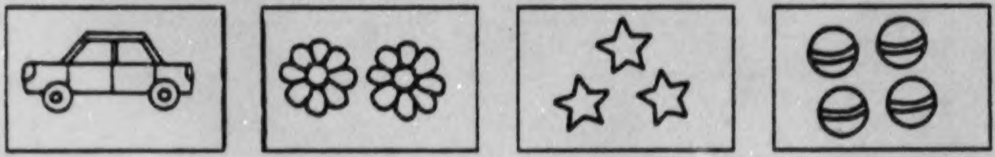


Activity X: Write numerals 0 - 9 after counting objects.

Number of Participants: Class or group

Materials: Pictures of sets of objects 0 - 9 glued on 5" x 8" cards. More than one card for each numeral. Duplicate worksheet used in Activity IX (one per pupil).

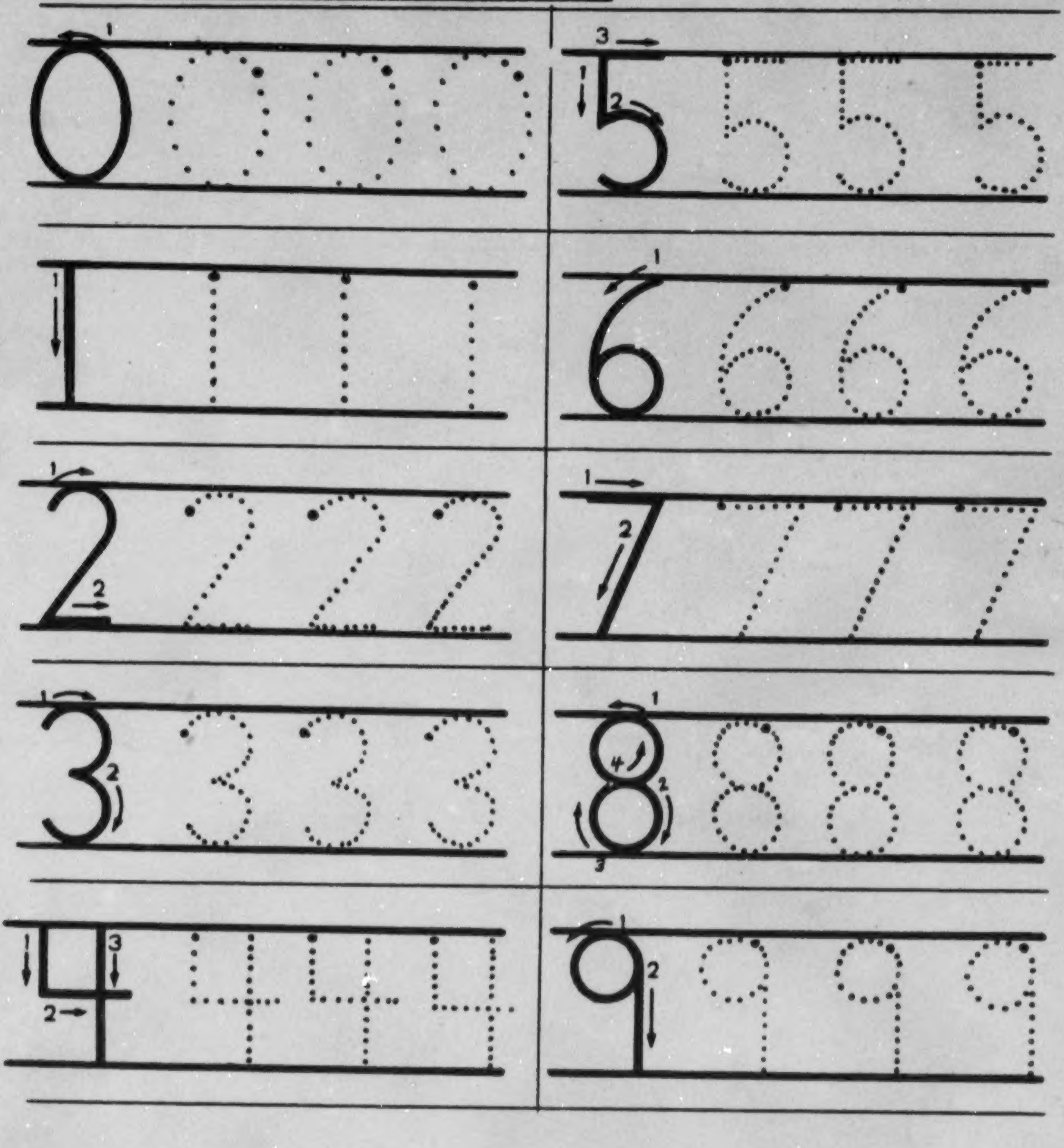
Procedure: Teacher displays card with picture of set of objects. Pupils count and write correct numeral at least 3 times. Teacher walks among pupils and observes their writing. Teacher shows another picture and procedure is repeated, etc.



Variation: One pupil says numeral between 0 - 9, another pupil finds corresponding picture, a third pupil writes corresponding numeral on chalkboard.

# NUMERALS 0 - 9

Name: ______________________________



Skill: Understand place value

Teacher Background:

Place value, like other mathematical concepts, should be taught in developmental levels beginning with the concrete, proceeding to the representational and ending with the abstract stage. In Activities I - V numbers are represented by physical objects, e.g., 25 can be represented by 2 beansticks (2 tens) and 5 single beans (5 ones). In Activities VI - VIII numbers are represented by physical objects also, but in a more abstract way, e.g., 25 is represented on an abacus with two beads in the tens place and 5 beads in the ones place. Pupils learn that, on an abacus, 2 beads in the tens place stand for 2 sets of 10 objects and 5 beads in the ones place stand for 5 objects. In the abstract stage, Activities IX - XIII pupils work only with written symbols, e.g., 25 means twenty-five because the 2 is in the ten's place and the 5 is in the one's place.

The following activities are listed in developmental order when appropriate.

Activity I: Group counters in sets of tens and ones.

Activity II: Count and show representations of numerals 1 - 99 in sequence.

Activity III: Show representations of numerals 1 - 99 out of sequence.

Activity IV: Play "Race to 100" by counting and making exchanges of ones and tens.

Activity V: Play "Race to 1000" with base ten blocks.

Activity VI: Practice making number representations using pupils.

Activity VII: Practice making number representations on abacus.

Activity VIII: Practice reading 1-, 2-, 3-digit numerals.

Activity IX: Recognize and write the two ways to arrange 2 different digits as a 2-digit numeral, e.g., digits 4 and 6 can be arranged as 46 and 64.

Activity X: Play "Place Value Game," a game concerned with making number combinations that add up to ten, one hundred and one thousand.

Activity XI: Play "100 Square Game".

Activity XII: Practice reading and comparing 3-digit numerals.

Activity XIII: Play game, "Digit Deal."

**Activity I**: Group counters in sets of tens and ones (to be used in place value games and activities throughout the year)

**Number of Participants**: Class or group

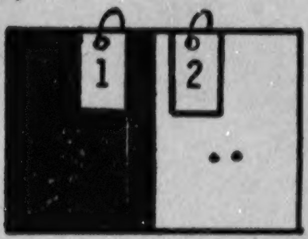
**Materials and Procedure**:

1. Easily obtainable objects useful for developing place value concepts.
    - A. Paste sticks, popsicle sticks or straws: put 10 sticks into a bundle and a rubber band around each bundle. One bundle represents a ten, a single stick represents a one.
    - B. Dried beans and tongue depressors: glue 10 beans on each tongue depressor to make a beanstick. Each beanstick represents a ten; a single bean represents a one.
    - C. Toothpicks: paste 10 toothpicks on a 3" x 3" piece of tag or cardboard. Each card of 10 toothpicks represents a ten; a single toothpick represents a one.
    - D. Bottle caps and plastic bags: put 10 bottle caps in each bag and close with a rubber band or tie-wire. Each bag of ten caps represents a ten; a single bottle cap respresents a one.
    - E. 3/4" wooden cubes: glue cubes into lengths of 10. Each length of cubes represents a ten; each single cube represents a one.
2. If funds are available, other objects such as Unifix cubes, centimeter rods, and base ten number blocks are also very helpful in developing place value concepts.

Activity II: Count and show concrete representations of numerals 1 - 99 in sequence with and without recording (sets of tens and ones).

Number of Participants: Class or group

Materials: Sets of tens and ones listed in Activity I. Each pupil needs a minimum of 9 tens and 9 ones and an 8½" x 11" cardboard separated in middle lengthwise; right side is light color to represent ones and left side is darker color to represent tens. Each side has 10 cards placed on small chart rings at top with numerals 0 - 9 written in sequence on them.



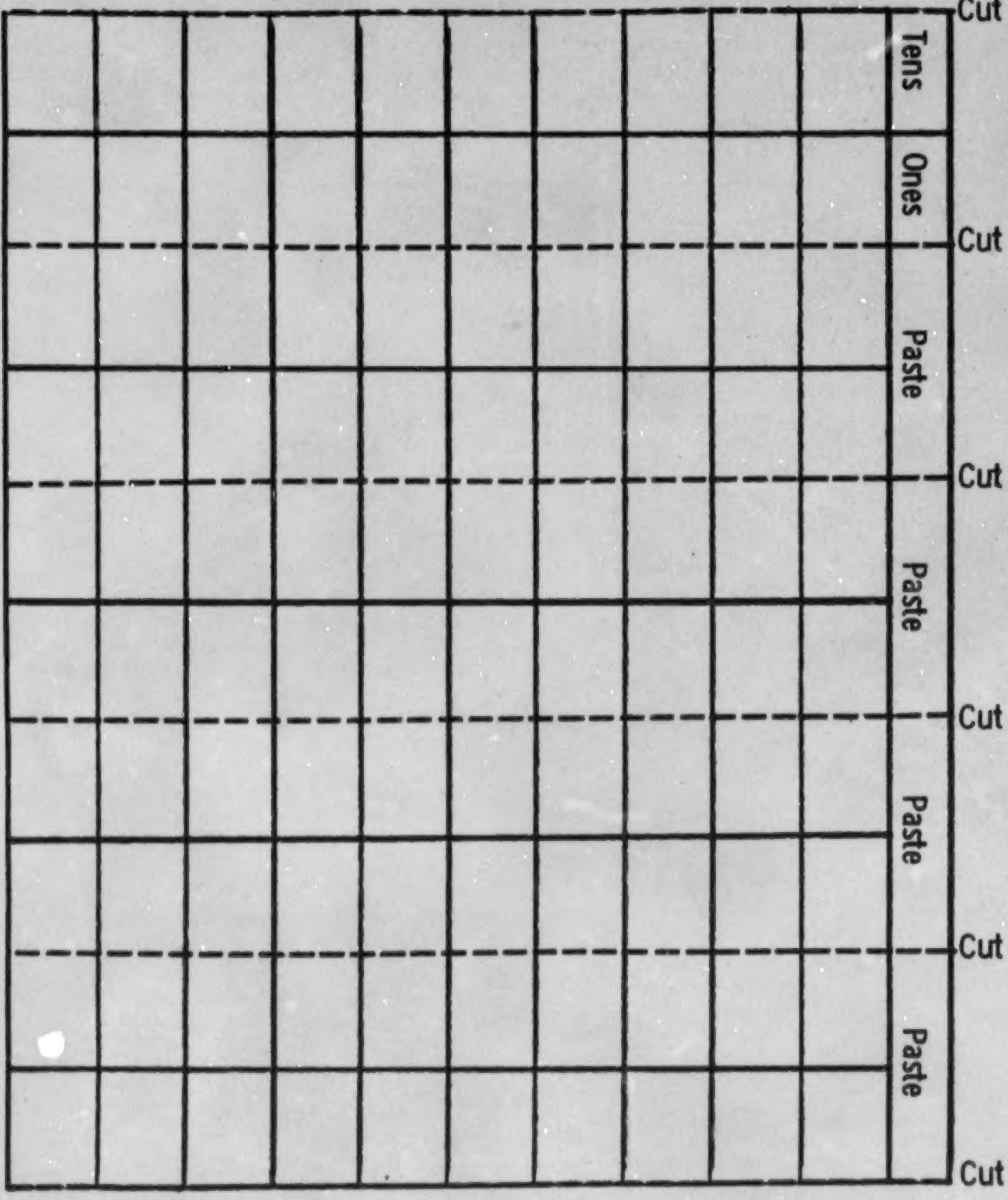
Procedure: Teacher counts aloud slowly, starting with 1 and going to 30 (or whatever is appropriate). Pupils use their sets of tens and ones to make representations of each numeral as it is said. Teacher may wish to start succeeding sessions with numbers greater than one, e.g., 21.

Extension I: Same procedure is followed but extended to include recording. Pupils are given strips of paper separated into tens and ones columns. Pupils count using their sets of tens and ones and write numerals on strip of paper until strip is filled. Pupils may continue counting and recording by adding strips to bottom of strip previously written on. Worksheet on next page may be duplicated for this activity. (Each pupil will need 2 worksheets in order to count to 99.)

Extension II: Duplicate worksheet on page B-21 to extend recording from 100 to 999. Pupils cut, paste, and add strips to previously recorded strips (1 - 99).

# COUNTING 1-99

Directions: Pupils cut in strips and paste together, then record to show numerals 1-99. *(Note: Duplicate 2 sheets per pupil to count to 99. To continue counting from 100-200, or higher, the worksheet on page B-21 may be duplicated, cut in strips and attached to counting strips of this page.)*



Note: When using this sheet to count from 51-99, cut off or paste over the bottom row of the last column.

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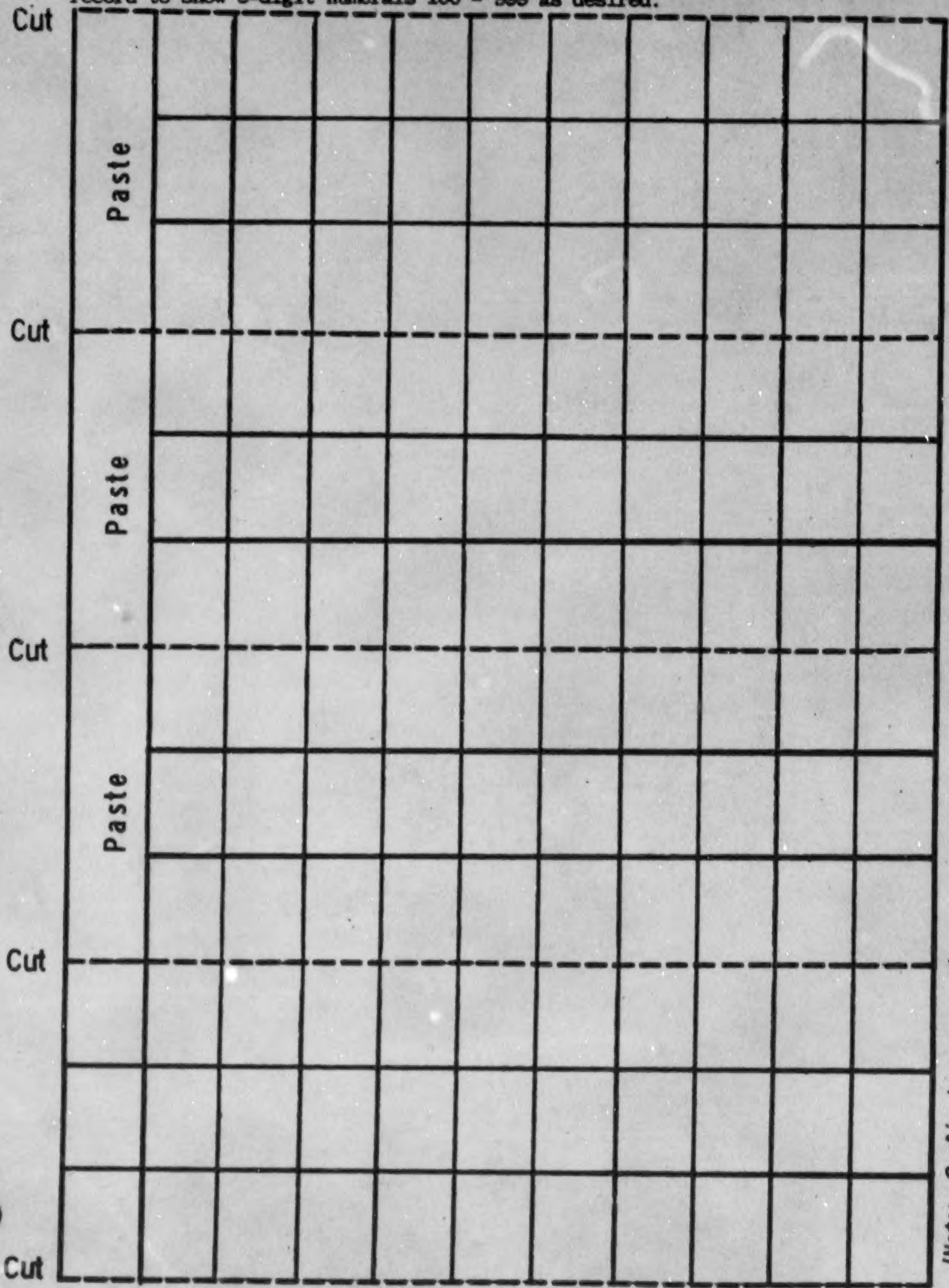
# COUNTING 100-999

Directions: Pupils cut in strips and paste together to make one long strip, then record to show 3-digit numerals 100 - 999 as desired.



(Note: *Duplicate as many sheets as needed for each pupil.*)

Activity III: Show representations of numerals 1 - 99 out of sequence with and without recording (sets of tens and ones).

Number of Participants: Class or group

Materials: Same as for Activity II (page B-19).

Procedure: Teacher selects a numeral between 1 and 99 and says it aloud, e.g., teacher says fifty-four (54.) Each pupil shows 54 with 5 sets of ten and 4 single ones (5 beansticks and 4 single beans), and flips numeral cards on cardboard divider to show 54. Process is repeated several times.

Variation I: Teacher selects a numeral between 1 and 99 and directs pupils to represent it by using sets of tens and ones. E.g., teacher says, "Show me 3 beansticks and 5 beans; then write the numeral that says what you have made." Pupils write 35.

Variation II: Each pupil needs a strip of paper like one used in Extension of Activity II. Teacher needs 9 sets of ten and 9 ones. Teacher selects a numeral between 1 and 99 and makes a representation of it with sets of tens and ones. A selected pupil counts manipulatives and says numeral aloud. Another pupil checks first pupil's answer by counting also. All pupils record numeral represented on their strips of paper. A different number representation is made and process is repeated involving as many pupils as possible.

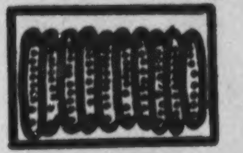
Variation III: Teacher needs 9 sets of ten and 9 ones. Teacher separates group into two teams. Teacher chooses a numeral between 1 and 99 and represents it with tens and ones, e.g., teacher shows 6 sets of ten and 3 ones. First player on each team to say numeral represented (looking, not manipulating) wins a point for his or her team. Another numeral is selected and process is repeated with next two players. Team with most points at end of activity is winner.

Activity IV: Play game "Race to 100" by counting and making exchanges of ones and tens.

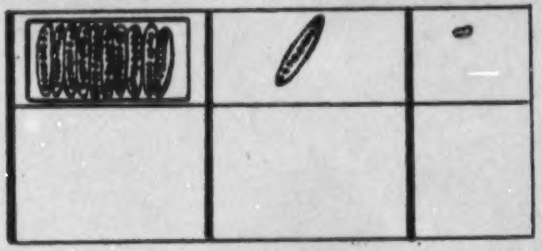
Number of Participants: Group(s) of 3 - 6

Materials: The following directions for this activity involve using beansticks (9 tens and 9 ones per pupil). However, any type of manipulatives (bundles of tens and ones) referred to on page B-17 of this book may be used. Also needed are a cube marked 4 - 9 or a spinner with numerals 1 - 9 on it and a playing board for each pupil marked off in ones, tens, and hundreds using drawings designating type of manipulatives used. Manipulatives are placed in a bank for pupils to draw from.

Note: To make one hundred with beansticks 10 beansticks are glued on a piece of chipboard to make a raft.



Procedure: Players take turns using spinner or tossing cube to determine number of beans to put in bean column. Players make trades as soon as they have enough beans to make a "fair" trade. A "fair" trade is exchanging 10 single beans for one beanstick or exchanging 10 beansticks for a raft. At end of each player's turn each player announces how many beans he has. For example, after several turns a child who has a total of 48 would say, "I have 4 beansticks and 8 beans which is 48 beans." Players continue to take turns and make trades. Winner is first player to get a raft (100).



Variation I: Play in reverse order, i.e., start with a raft, use spinner or toss cube to determine number of beans to return to bean bank. Make trades to be able to return beans. Winner is first person to be out of beans.

Variation II: Players take turns spinning and each person takes a number of beans indicated by spin and makes necessary trade. Players have same number of beans and leader can assist anyone having difficulty.

Variation III: Base ten number blocks or toy money and appropriate playing boards may be used in place of beansticks.

**Activity V**: Play "Race to 1000" with base ten blocks

**Number of Participants**: 4 - 6 players

**Materials**: Base ten blocks (1 set per pupil). Set would include 10 each of unit (one) blocks, ten blocks, and hundred blocks; only 1 thousand block is needed for game. Blank die marked with any six numerals; e.g., 34, 45, 8, 103, 121.

**Procedure**: Blocks are placed in one place (bank); one player serves as banker. Other players toss die in turn and receive from banker number of blocks designated by die; e.g., a player tossing 121 receives 1 hundred block, 2 ten blocks and 1 unit (one) block. When a player has 10 one blocks he/she must trade them for 1 ten block; in like manner, 10 tens are traded for 1 hundred. Winner is first player to trade 10 hundred blocks for 1 thousand block.

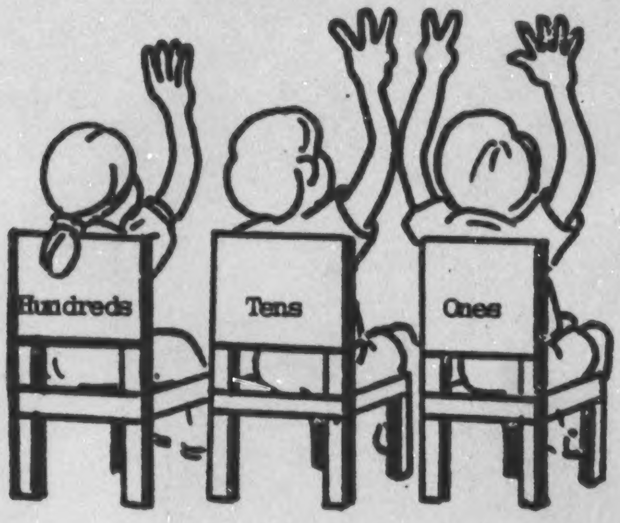
**Variation**: Game could involve whole class by separating pupils into teams.

**Activity VI:** Practice making number representations using pupils.

**Number of Participants:** Class or group

**Materials:** 3 chairs and 3 signs with ones, tens, hundreds written on them.

**Procedure:** Teacher selects 3 pupils to sit in 3 chairs placed in a row in front of class, facing chalkboard. Chair backs are labeled right to left, ones, tens, hundreds. Teacher selects a pupil in class to write a 3-digit numeral on chalkboard. 3 pupils in chairs hold up fingers representing numeral written, e.g., if 437 is written, one's pupil holds up 7 fingers, ten's pupil holds up 3 fingers and hundred's pupil holds up 4 fingers. (See illustration below.)



**Activity VII:** Practice making number representations on abacus.

**Number of Participants:** Class - 2 teams

**Materials:** Abacus and chalkboard

**Procedure:** Separate class into two teams. First player on Team I says a numeral and asks first player on Team II to show its number representation on abacus. If player on Team II illustrates numeral correctly, Team II scores one point and then in turn asks Team I to illustrate a numeral. If first player on Team I doesn't illustrate numeral correctly, second player on Team I gets a chance, and so on. Teams only score points on first attempts.

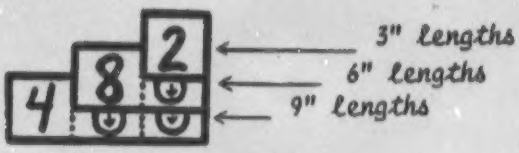
**Activity VIII**: Practice reading 1-, 2-, 3-digit numerals.

**Number of Participants**: Class or group

**Materials**: Cut tagboard strips in nine 9" lengths separated into 3 sections ( ☐☐☐ ) with 100 - 900 written on them; nine 6" lengths separated into 2 sections ( ☐☐ ) with 10 - 90 written on them; and ten 3" lengths ( ☐ ) with 0 - 9 written on them. Each pupil needs a set of 28 strips.

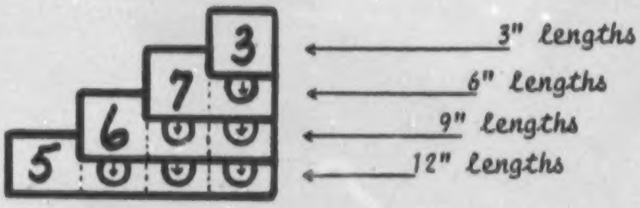
**Procedure**: Direct pupils to form 3-digit numerals by placing tagboard strips over each other; e.g., the numeral 482 would be made as illustrated:

400 + 80 + 2 =



**Extension**: Pupils make numerals with 4-digits. Each pupil needs 9 more strips cut into 12" lengths separated into 4 sections ( ☐☐☐☐ ) with 1000 - 9000 written on them.

5000 + 600 + 70 + 3 =



**Activity IX:** Recognize and write the two ways to arrange 2 different digits as a 2-digit numeral, e.g., digits 4 and 6 can be arranged as 46 and 64.

**Number of Participants:** Class or group

**Materials:** Chalkboard, pocket chart, 10 cards numbered 0 - 9 that can be shuffled, duplicate worksheet divided in tens and ones columns on next page (1 per pupil).

**Procedure:** Teacher writes a numeral 0 - 9 on each card. A pupil shuffles cards and arranges them in a fan so class cannot see numerals. Another pupil selects 2 cards from fan and sets them side by side in pocket chart to make a 2-digit numeral; e.g., pupil arranges 3 and 7 cards to say 37. Teacher asks if 3 and 7 can be arranged another way. Pupil arranges cards to say 73. Teacher writes 37 and 73 on chalkboard and all pupils record likewise on individual worksheets. Teacher asks question: "Which is greater?" "Which is less?" Participants choose different pupils to take their places and process is repeated.

| Tens | Ones |
|---|---|
| 3 | 7 |
| 7 | 3 |

**Variation:** A grab box filled with 2 sets of numeral cards 0 - 9 can be used instead of cards arranged in a fan. A pupil grabs 2 cards out of box and does the same procedure.

**Note:** Two sets of numerals provide possibility of selecting two of same kind; e.g., 2 cards with 3 on them can only be arranged to say 33.

**Extension:** Pupil selects 3 cards and arranges 6 possibilities; e.g., digits 4, 5 and 6 are arranged as 456, 465, 546, 564, 645 and 654. Pupils record numerals on worksheets from least to greatest.

B-28

# TENS AND ONES

Name ______________________ Date ______________________

| TENS | ONES |
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Activity X: Play "Place Value Card Game," a game concerned with making number combinations that add up to ten, one hundred and one thousand.

Number of Participants: Group(s) of 4 - 6

Materials:

Set I: 56 Playing cards with the following numerals on them: 2 cards each with 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 200, 300, 400, 500, 600, 700, 800, 900. One additional card with 1 written on it and one additional card with 100 written on it.

Set II: Scoring cards of a different color and larger than Set I cards: 10 cards each with numerals 10, 100, and 1000 written on them.

Procedure: One player is selected to be dealer/banker. Dealer shuffles Set I Playing cards and deals them to other players, not including himself/herself. Cards do not have to be distributed evenly to players. Dealer becomes banker and places Scoring cards in bank. Exchanges are made following one simple rule: players exchange 2 or more Playing cards to make 10, 100, or 1000. Players may not exchange a 10 Playing card for a 10 Scoring card nor may Playing cards 19 and 1 be exchanged for two 10 Scoring cards. To play game all players make all legal exchanges they can. When no more exchanges are possible, each player passes one Playing card to his left. Players can't look at received cards until they have passed their cards. After each player has received a Playing card, further exchanges of Playing cards for Scoring cards are made. The process of passing and exchanging is continued until one player in group has only one card left. Players add the numbers on their Scoring cards. Player with highest total is winner.

Examples of legal exchanges:

1. Playing cards 1, 2 and 7 exchanged for a 10 Scoring card.
2. Playing cards 10 and 90 exchanged for a 100 Scoring card.
3. Playing cards 300, 600, 40 and 60 exchanged for a 1000 Scoring card.

**Activity XI**: Play "100 Square Game"

**Number of Participants**: - Group(s) of 4, 5 or 10

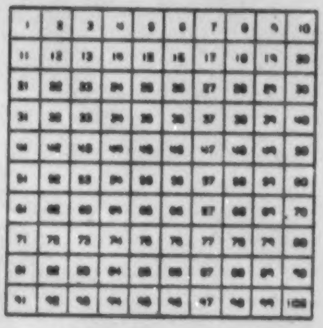
**Materials**: A square board marked off in 100 square units (playing board) and numbered 1 - 100. 100 markers (smaller size than square unit on playing board) and labeled 1 - 100. Suggestions for markers are wooden cubes, plastic discs or tagboard cut in small squares.

**Procedure**: Markers are distributed equally to players face down until all markers are gone. Players look at markers and put them in order by least to greatest number. Players should view only their own markers. Each player in turn calls an instruction and plays as many markers as possible; e.g., "Play even numbers between 70 and 80." Players with 72, 74, 76 and 78 would place those markers on playing board. Winner of game is player who plays (discards) all markers first.

Examples of instructions called by players:

1. Play all markers that are multiples of 9 greater than 50 and less than 100. (54, 63, 72, 81, 90, 99)
2. Play all markers that are square numbers less than 30. (1, 4, 9, 16, 25)
3. Play all markers with digits that add up to 10. (19, 91, 28, 82, 37, 73, 46, 64, 55)

100 Square Game



Activity XII: Practice reading and comparing 3-digit numerals.

Number of Participants: Class or group

Materials: Three sets of numerals 0 - 9, each set on different color card. It is possible to play game with as many as 30 pupils.

Procedure: Pass out cards. Leader calls on three pupils, each with a different colored card. Pupils arrange themselves to fit the number description given by leader; e.g., leader calls on a pupil holding a 5, another with a 4, and another with a 9 come to the front. Leader asks pupils to arrange themselves to make greatest numeral possible. Pupils make 954. Other examples of descriptions are:

1. Make least numeral possible.
2. Who could increase value of numeral by 30? (In the example involving 954, it would be child holding 8 on card same color as 5.)
3. Who could decrease value of numeral by 40?
4. Include one child holding a zero. Make greatest numeral; least. Discuss significance of zero in different positions.
5. Use cards to represent an odd number; greatest, least odd number.
6. Use cards to represent an even number; greatest, least even number.
7. Call on a 7, a 6, and an 8 to make a numeral between 600 and 700. Call on a 5, a 2, and a 9 to make a numeral between 700 and 1000.
8. Assign place values to colors. Call on 3 pupils, each holding a card of a different color. Have them arrange themselves according to their place value assignments and call on another child to read numeral.

Extension: Make another set of numerals 0 - 9 in a fourth color to do activities with 4-digit numerals.

Activity XIII: Play game, "Digit Deal" to show understanding of place value by correctly placing digits as addends to get as close as possible to given sums.

Number of Participants: Class or group

Materials: Chalkboard, duplicate worksheet on next page (1 per pupil), a set of 10 cards, each with a different single digit 0 - 9 on it.

Procedure: Leader chooses Goal number between 100 and 200. Players write numeral on line beneath word Goal. Goal is used for three consecutive games. After three games, leader selects new goal which is also used for three games.

Leader shuffles cards and selects one at random, tells players what it is, and records it on chalkboard. Players write it in any one of the boxes they wish. Leader returns card to pile, reshuffles cards and selects a second card. Play continues as before for a total of eight drawings. Thus, players have two discards.

Players add numbers they have shown in the 6 boxes, write sum on line provided and subtract to get the difference between their sum and the Goal, i.e., Goal: 175; sum 150; 175 - 150 = 25. Lowest score wins. Game continues for two more rounds using same Goal. Then a new Goal is chosen for next three games.

Rules:

(1) Complete deck of 10 cards must be used for each draw.

(2) Pupils must record each numeral before next one is called. Leader monitors to make sure recording is done before next play.

(3) A suggested time limit between each draw is 5 - 7 seconds.

## DIGIT DEAL

B-33

NAME: ____________________ DATE: ____________________

| | YOUR SUM | GOAL | SCORE (Difference between Goal and Sum) |
|---|---|---|---|
| 1 ☐☐ + ☐☐ + ☐☐ = | ______ | ______ | ______ |
| Discards → ☐☐ | | | |
| 2 ☐☐ + ☐☐ + ☐☐ = | ______ | ______ | ______ |
| Discards → ☐☐ | | | |
| 3 ☐☐ + ☐☐ + ☐☐ = | ______ | ______ | ______ |
| Discards → ☐☐ | | | |
| 4 ☐☐ + ☐☐ + ☐☐ = | ______ | ______ | ______ |
| Discards → ☐☐ | | | |
| 5 ☐☐ + ☐☐ + ☐☐ = | ______ | ______ | ______ |
| Discards → ☐☐ | | | |
| 6 ☐☐ + ☐☐ + ☐☐ = | ______ | ______ | ______ |
| Discards → ☐☐ | | | |
| 7 ☐☐ + ☐☐ + ☐☐ = | ______ | ______ | ______ |
| Discards → ☐☐ | | | |
| 8 ☐☐ + ☐☐ + ☐☐ = | ______ | ______ | ______ |
| Discards → ☐☐ | | | |
| 9 ☐☐ + ☐☐ + ☐☐ = | ______ | ______ | ______ |
| Discards → ☐☐ | | | |

TOTAL ______

**Skill**: Identify and Use relation symbols ( > , < , = ).

**Activity I**: Use greater than ( > ), less than ( < ), and equal to (=) to compare 3-digit numerals.

**Number of Participants**: Class or group

**Materials**: chalkboard; 1 set of base ten number blocks; duplicate worksheet on next page (1 per pupil).

**Procedure**: Leader writes 234 and 426 on chalkboard and directs two pupils to use number blocks to make representations of both numerals. Compare and record numerals and > , < , or = in circle on worksheet. Discussion follows as to which sign is correct. All pupils check answers and change them if necessary. Activity is continued with two more numerals written, representations made, comparisons made, and numerals and symbols recorded.

Use greater than (>),
less than (<), equal to (=)

| H | T | O |  | H | T | O |
|---|---|---|---|---|---|---|
| 2 | 3 | 4 | < | 4 | 2 | 6 |
|  |  |  | ○ |  |  |  |
|  |  |  | ○ |  |  |  |
|  |  |  | ○ |  |  |  |

B-35

# GREATER THAN, LESS THAN, EQUAL TO

Name____________________________ Date________________________

Write greater than(>), less than (<), equal to (=) in ○.

| HUNDREDS | TENS | ONES | | HUNDREDS | TENS | ONES |
|---|---|---|---|---|---|---|
| | | | ○ | | | |
| | | | ○ | | | |
| | | | ○ | | | |
| | | | ○ | | | |
| | | | ○ | | | |
| | | | ○ | | | |
| | | | ○ | | | |
| | | | ○ | | | |
| | | | ○ | | | |
| | | | ○ | | | |

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**Skill**: Add and subtract with regrouping.

**Teacher Background**:

Addition and subtraction with regrouping should progress naturally in developmental levels beginning with the manipulative then to the representational and finally to the abstract level. Many of the activities below progress through these three stages.

**Activity I**: Regroup to add with 2-digit addends using manipulatives (beansticks, base ten number blocks, etc.)

**Activity II**: Regroup to subtract with 2-digits using manipulatives $\begin{array}{r}35\\ \underline{-17}\end{array}$

**Activity III**: Regroup to add with 1-, 2- and 3-digit addends using stacks of books or blocks of uniform size.

**Activity IV**: Regroup to add with 2-digit addends using manipulatives. Use horizontal form, $18 + 15 = \square$

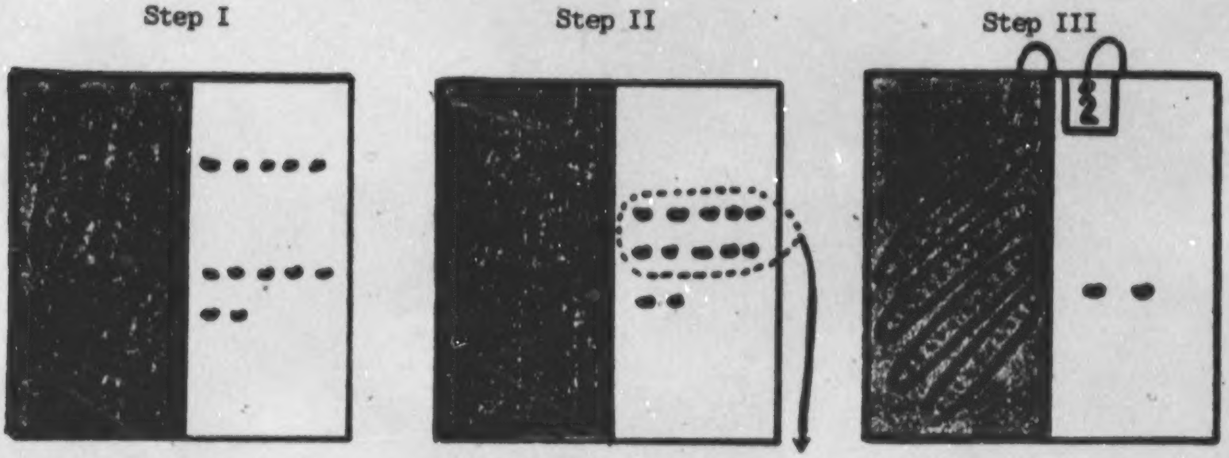
**Activity V**: Regroup to subtract with 2-digit numerals using base ten blocks and record corresponding algorithm.

**Activity I**: Regroup to add with 2-digit addends using manipulatives (beansticks, base ten number blocks, etc.)

**Number of Participants**: Class or group

**Materials**: Each pupil needs a set of manipulatives made in Activity I page B-18. A pupil set would be at least 19 tens (19 beansticks) and 18 ones (single beans). Each pupil needs cardboard chart used in Activity II on page B-19.

**Procedure**: Teacher writes addition example on chalkboard. Pupils use manipulatives to make representations of both digits with tens and ones and place in the ten's and one's columns on their charts. For example, if beansticks are used for this activity the example 25 + 17 = ☐ would look like illustration below (Step I). Pupils join sets to get 3 beansticks in ten's column and 12 beans in one's column. Pupils are told they must always exchange 10 single beans for a beanstick. Pupils are directed to count single beans (12) and make any possible exchanges (Step II). 10 beans are taken from the one's column and exchanged for a beanstick which is placed in the ten's column. Pupils count the tens and ones and flip the numeral cards on their chart to show 42 (Step III).



*Exchange for a beanstick and place in ten's column*

**Extension I**: Extend to add 1- and 2-digit addends; e.g., $\begin{array}{r}25\\+6\\\hline\end{array}$

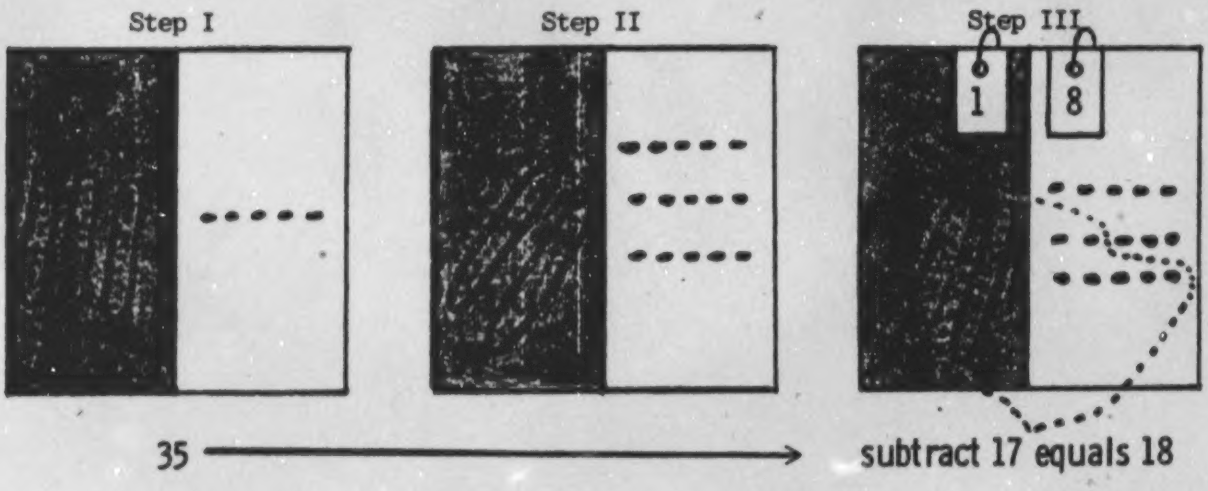
**Extension II**: After much practice with tens and ones extend regrouping to hundreds and then to thousands. Activity should be done with one demonstration set of manipulatives in front of the group. Base ten number blocks are more appropriate for adding numbers greater than 100.

**Activity II**: Regroup to subtract with 2-digits using manipulatives $\begin{array}{r}35\\ -17\\ \hline\end{array}$

**Number of Participants**: Class or group

**Materials**: Same as for Activity I of this skill.

**Procedure**: Teacher writes subtraction example on chalkboard; e.g. $\begin{array}{r}35\\ -17\\ \hline\end{array}$ Pupils use beansticks or other appropriate manipulatives to make representations of the top numeral (minuend) and place in ten's and one's columns on their charts. If beansticks are used 35 would be placed as in illustration below (Step I). Teacher asks if 7 beans can be taken from 5 beans. Pupils answer no. Teacher asks if anyone has a suggestion. Hopefully, a pupil will suggest taking a beanstick from the ten's column, exchanging it for 10 single beans and placing them in the one's column with the 5 beans already there (Step II). Teacher directs pupils to count single beans (15) and then asks if 7 beans can be taken from 15. Pupils take 7 from 15 which leaves 8 beans in the one's column. Pupils look at the ten's column, see they must subtract 1 ten so they take away 1 beanstick leaving 1, count 1 beanstick and 8 beans and flip cards on chart to show 18 (Step III).



**Extension I**: Extend to subtract 1-digit from 2-digit with regrouping; e.g., $\begin{array}{r}38\\ -\ 9\\ \hline\end{array}$

**Extension II**: After much practice with regrouping from tens to ones extend to regrouping from hundreds to tens and thousands to hundreds. Activity should be done with one demonstration set of manipulatives in front of group. Base ten number blocks would be more appropriate for numbers greater than 100.

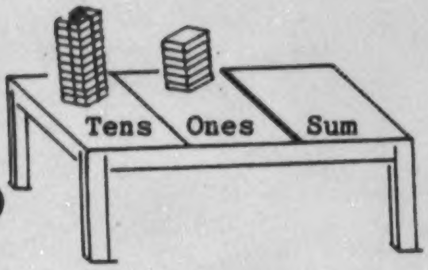
**Activity III**: Regroup to add with 1-, 2- and 3-digit addends using stacks of books or blocks of uniform size.

**Number of Participants**: Class or group

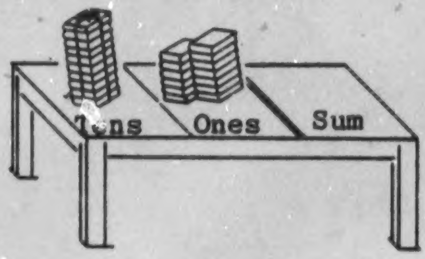
**Materials**: 50 - 100 books or blocks, chalkboard and table for stacking books.

**Procedure**: Tape is used to separate table into 3 columns labeled ten's, one's, and sum. Table is placed at front of room. Teacher writes addition example on chalkboard: $\begin{array}{r}16\\+\ 7\\\hline\end{array}$ One pupil places 1 stack of 10 books in ten's column and 1 stack of 6 books in the one's column. (Step I) Another pupil places stack of 7 books in the one's column. (Step II) Still another pupil moves all the stacks to the sum column and makes any possible additional stacks of 10. Stacks of 6 and 7 books are combined to make 1 stack of 10 with 3 left over. Pupils then count 2 stacks of 10 books and 1 stack of 3 books and arrive at sum, 23 (Step III).

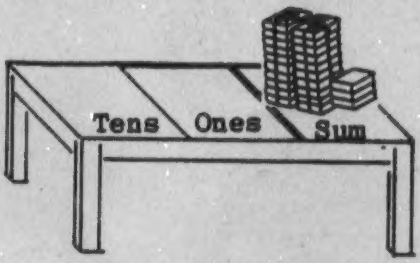
Step I



Step II



Step III



**Extension I**: Extend to 2-digit addends with regrouping; e.g., $\begin{array}{r}34\\+27\\\hline\end{array}$

**Extension II**: Extend to include hundreds column with example such as $\begin{array}{r}243\\+369\\\hline\end{array}$ (Number blocks would be more appropriate for adding numbers greater than 100.)

**Extension III**: Extend to subtraction with regrouping; e.g., $\begin{array}{r}35\\-\ 7\\\hline\end{array}$

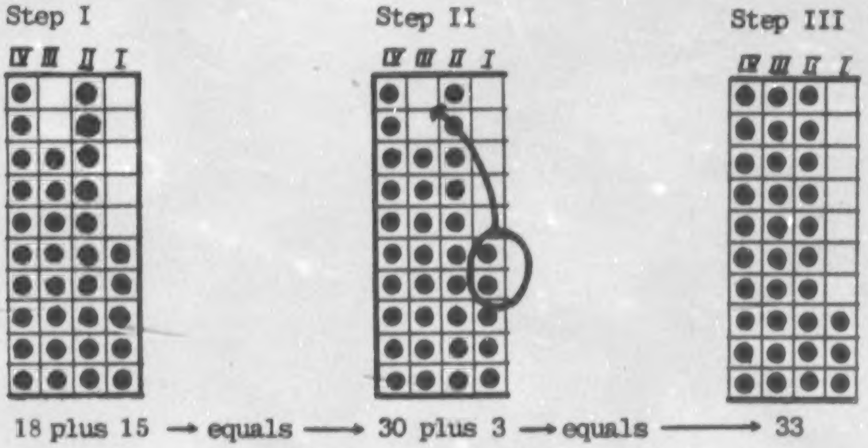
Pupil places 3 stacks of 10 books in the ten's column and 1 stack of 5 books in the one's column. 7 can't be subtracted from 5 so pupils are directed to take a stack of 10 books from ten's column and place them in the one's column separating the stack into single books. Now, pupils have 15 books in one's column and can subtract 7 from 15 with 8 left over. Pupils count 2 stacks of 10 and 1 stack of 8 and arrive at 28.

**Activity IV:** Regroup to add with 2-digit addends using manipulatives.
Use horizontal form, 18 + 15 = ☐

**Number of Participants:** Class or group

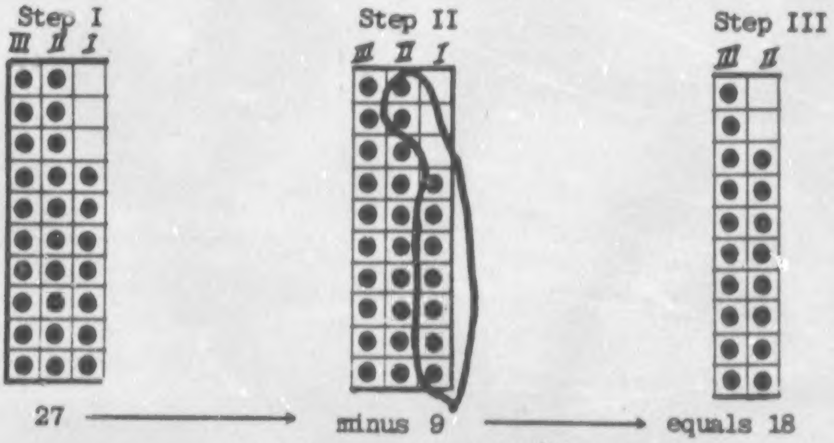
**Materials:** Cardboard discs or counters (50 per pupil); duplicate worksheet on next page to use with 2 addends of less than 30 each (1 per pupil).

**Procedure:** Object of activity is to add 2-digit addends by arranging counters on graph paper in as many sets of ten as possible. Teacher writes example 18 + 15 = ☐ on chalkboard. Pupils arrange 18 counters (first addend) in two columns on left of graph paper and 15 counters (second addend) in next two columns (Step I). Teacher asks pupils, "How many sets of ten do you have?" (2) "Can you make another set of ten?" Pupils suggest moving 2 counters from the first column to the third column to make another set of ten (Step II). Then pupils count sets of ten (3) and single counters (3) to get 33 (Step III).



**Extension I:** Adapt to 2-digit addends; e.g., 24 + 27 = ☐

**Extension II:** Adapt to subtraction with regrouping; e.g., 27 - 9 = ☐
Place 27 in first 3 columns (Step I). Pupils remove 9 counters; taking 7 from the first column and then 2 more from the second column (Step II). Pupils count number of counters left (18) (Step III).



# USE COUNTERS TO ADD WITH REGROUPING

B-41

Name ______________________ Date ______________________

| VI | V | IV | III | II | I |
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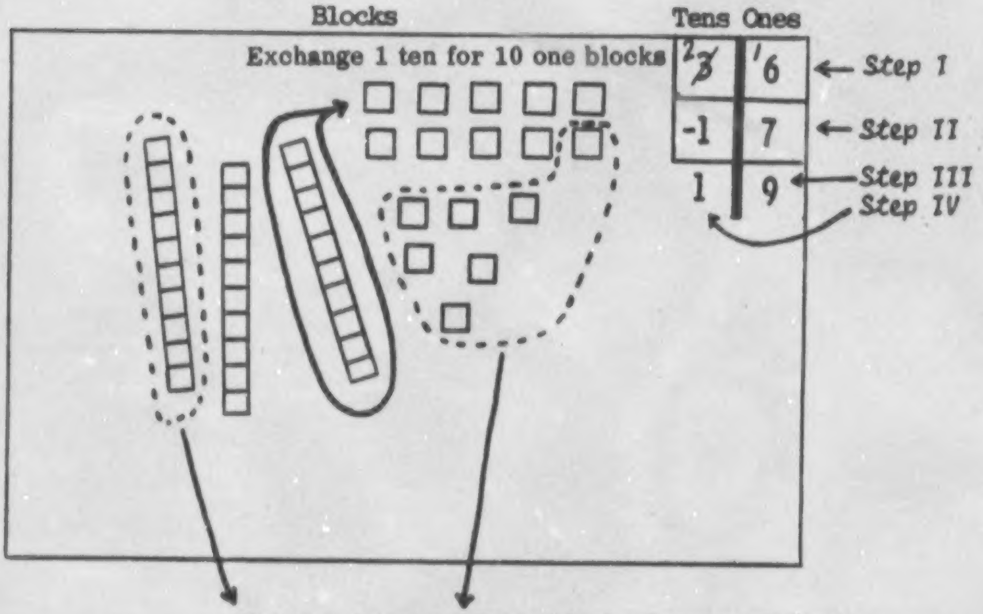
CVCSD/A161(135)6-77

Activity V: Regroup to subtract with 2-digit numerals using base ten blocks and record corresponding algorithm.

Number of Participants: Class or group

Materials: Chalkboard; sets of base ten blocks (9 tens and 18 ones per pupil); duplicate worksheet on next page and laminate or place under clear plastic (1 per pupil); marking pens or crayons that wipe off (1 per pupil).

Procedure: Teacher writes example on chalkboard, e.g., $\begin{array}{r}36\\ \underline{-17}\end{array}$. Teacher directs pupils to make representation of top numeral (minuend) with 3 ten blocks and 6 one blocks, place in box on the worksheet and record 36 in appropriate place. (See Step I on illustration.) Teacher asks, "How many ten blocks does the example written on the chalkboard tell you to take away?" (1) "How many one blocks are you to take away?" (7) Teacher asks pupils to record 17 in appropriate place. (Step II on illustration.) Teacher asks if 7 one blocks can be taken away from 6 one blocks. (No) After discussion, hopefully, a pupil will suggest exchanging 1 ten block for 10 one blocks and place them with the 6 one blocks already there. Pupils use their blocks and make this exchange. "How many ones are there now?" (16) "Can 7 be subtracted from 16?" (Yes) Pupils remove 7 blocks. "How many ones are left?" (9) Teacher directs pupils to record the 9 in the one's column. (Step III on illustration.) Teacher asks how many ten blocks there are left. (2) and then asks, "How many ten blocks does the example tell you to take away?" (1) Pupils take away 1 ten block. "How many ten blocks are left?" (1) Teacher directs pupils to record the 1 in the ten's column (Step IV.) Teacher asks how many blocks (tens and ones) pupils have (19).



Remove 1 ten and 7 one blocks from worksheet

# Use Counters to Subtract With Regrouping

Name ______________________ Date ____________________

Blocks

| Tens | Ones | |
|---|---|---|
| | | ← Number of Blocks Start With |
| — | | ← Number of Blocks Take Away |
| | | ← Number of Blocks Left |

B-44

**Skill**: Learn basic multiplication facts

**Activity I**: Practice multiplication facts with egg cartons and beans.

**Activity II**: Learn multiplication facts using repeated addition method with Unifix Cubes.

**Activity III**: Learn multiplication facts using repeated addition method with manipulatives (centimeter rods).

**Activity IV**: Make arrays on geoboard to show that multiplication facts are commutative.

**Activity V**: Discover order (commutative) property of multiplication facts by using Invicta Balance.

**Activity I**: Practice multiplication facts with egg cartons and beans.

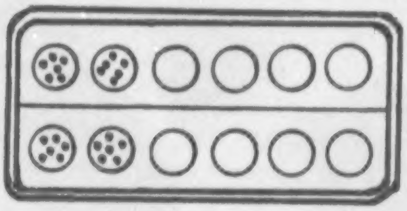
**Number of Participants**: Class, group or individual

**Materials**: Chalkboard, egg cartons (1 per pupil) and beans (100 per pupil).

**Procedure**: Teacher writes example 4 x 6 = ☐ on chalkboard; explains the 4 in the example stands for the number of sets (partitions in egg cartons) to be used and the 6 stands for the number of objects (beans) in each set. Each pupil places 6 beans in 4 partitions of his/her egg carton and counts total of beans (24). Teacher writes 24 in ☐ on chalkboard. Activity continues in same manner with other multiplication examples.

**Extension**: Pupils show commutative property of each multiplication example; e.g., 5 x 4 = 20 and 4 x 5 = 20.

(Egg carton)



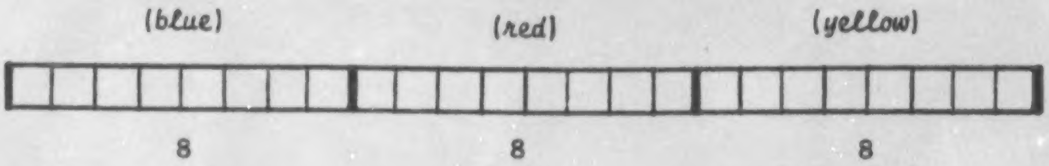
4 x 6

**Activity II**: Learn multiplication facts using repeated addition method with Unifix Cubes.

**Number of Participants**: Group(s) of 3 - 4 pupils, or individual

**Materials**: Unifix Cubes (50 of each color); one Unifix Number Tract 0 - 100.

**Procedure**: Teacher writes a multiplication example on chalkboard; e.g., 3 x 8 =☐ . Teacher asks two questions: "Which numeral in the example tells how many sets should be made?" (3) "Which numeral tells how many cubes should be put in each set?" (8) Pupils make 3 sets of 8 connecting cubes each. Pupils make all 8 in 1 set the same color but make each set a different color. Pupils connect the 3 sets in one long train and lay train down on number track starting at zero and ending at 24. Pupils see that 3 times 8 equals 24. Activity continues in like manner with other multiplication examples.



**Note**: If more sets need to be made than there are colors available trains may be put together by alternating colors of adjacent sets.

**Activity III**: Learn multiplication facts using repeated addition method with manipulatives (centimeter rods).

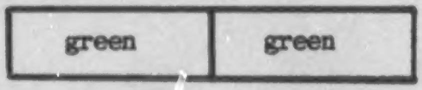
**Number of Participants**: Group or individual

**Materials**: Centimeter rods (1 box per pupil)

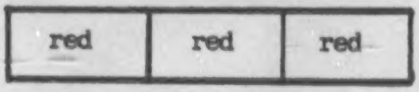
**Procedure**: Pupils work in pairs and combine their sets of rods. Teacher and pupils give number names to rods. For example, if Cuisinaire rods are used, white is model for 1, red for 2, and so on. Teacher writes example on chalkboard: 5 x 6 = ☐ . Pupils make train (place line end-to-end) of 5 dark green rods (6). Pupils add 6 + 6 + 6 + 6 + 6 = 30. Teacher suggests to pupils that three orange rods (10) be used for measuring length of 5 dark green rods to make adding easier. Activity is continued in like manner with other multiplication examples.

**Extension**: Teacher directs pupils to show commutative property of multiplication examples; e.g., Pupils show 2 x 3 = ☐ has same product as 3 x 2 = ☐ by making corresponding trains with centimeter rods. (See illustrations below.)

2 x 3 = 6



3 x 2 = 6



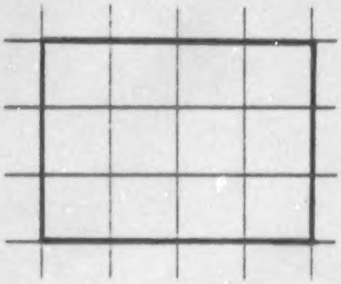
**Activity IV**: Make arrays on geoboard to show that multiplication facts are commutative.

**Number of Participants**: Class or group

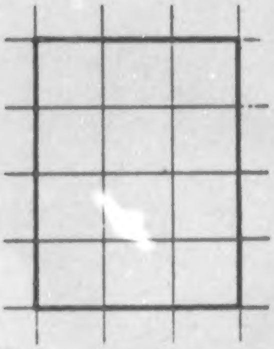
**Materials**: chalkboard; geoboards (1 per pupil); rubber bands.

**Procedure**: Teacher directs pupils to put a rubber band around an array of 3 rows of nails, 4 nails to a row. (Step I) Pupils count number of nails inside rubber band to get 12. Teacher writes 3 x 4 = 12 on chalkboard. Teacher directs pupils to rotate geoboard clockwise a quarter turn. Now there are 4 rows of 3 nails each. Teacher asks pupils how many nails inside rubber band (12). Teacher writes 4 x 3 = 12 next to 3 x 4 = 12 on chalkboard. Teacher and pupils discuss commutative property of multiplication. Activity continues in like manner with other multiplication examples.

**Variation I**: Use graph paper instead of geoboards; e.g. pupils draw lines to make a 3 x 4 array and count square regions inside rectangle to find products.

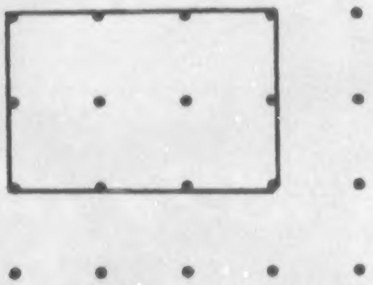


3 x 4 = 12
(3 rows of 4 each)

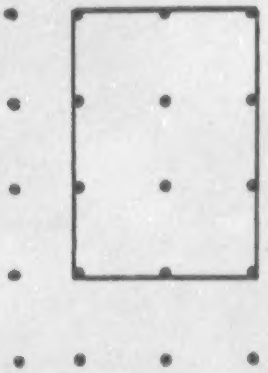


4 x 3 = 12
(4 rows of 3 each)

**Variation II**: Use geoboard paper instead of geoboards. Illustration below shows 3 x 4 = 12 and 4 x 3 = 12



3 x 4 = 12
(3 rows of 4 each)



4 x 3 = 12
(4 rows of 3 each)

**Activity V:** Discover order (commutative) property of multiplication facts by using Invicta Balance.

**Number of Participants:** Small group

**Materials:** Chalkboard, Invicta Balance (1 per 2 pupils, if possible), and duplicate worksheet on next page (1 per pupil).

**Procedure:** For this activity, weights are placed on left side of balance to show factors.

Weights are placed on right side of balance to show products. For products greater than 10, pupils must first place as many weights as possible on 10, and then place weight(s) on any other numerals necessary to make the product numeral; e.g., 25 is shown with 2 weights on 10 and 1 weight on 5.

Teacher places a weight on 1 on right side of balance to represent a product of 1. Teacher asks pupils to find how many ways there are to balance the scale by placing a weight in one place (1 numeral) on left side of balance. Pupils discover they can only place 1 weight on 1 to make the scale balance. Teacher writes 1 x 1 = 1 on chalkboard and pupils do the same on their worksheets. All weights are removed from the scale. Teacher places a weight on 2 which represents a product of 2. Teacher asks pupils to find how many ways there are to balance scale by placing weight(s) in one place (1 numeral) on left side of the scale. Pupils discover that 2 weights placed on 1, or 1 weight placed on 2 makes the scale balance. Teacher writes 2 x 1 = 2 and 1 x 2 = 2 on chalkboard and pupils do same on their worksheets. Teacher directs pupils to continue this same process with rest of the products on right side of worksheet; pupils list the multiplication facts discovered, count the number of ways, and record.

SAMPLE WORKSHEET

| LEFT SIDE OF BALANCE Place weight(s) only on one numeral at a time; more than 1 weight can be placed on the same numeral | | RIGHT SIDE OF BALANCE Place weight(s) to equal this number |
|---|---|---|
| How many Ways? | Multiplication Facts Discovered | Products |
| 1 | 1 x 1 (1 weight on 1) | 1 |
| 2 | 2 x 1 (2 weights on 1)<br>1 x 2 (1 weight on 2) | 2 |

B-49

# INVICTA BALANCE ACTIVITY - MULTIPLICATION FACTS

Name ______________________ Date ______________________

| LEFT SIDE OF BALANCE<br>Place weight(s) only on one numeral at a time; more than 1 weight can be placed on the same numeral | | RIGHT SIDE OF BALANCE<br>Place weight(s) to equal this number |
|---|---|---|
| How many Ways? | Multiplication Facts Discovered | Products |
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CVCSD/A161(137)6-77

**Skill**: Learn basic division facts

**Activity I**: Practice division using manipulatives and repeated subtraction method.

**Number of Participants**: Class, group or individual

**Materials**: Chalkboard, egg cartons (1 per 2 pupils), containers of approximately 50 beans (per 2 pupils), duplicate worksheet on next page (1 per pupil).

**Procedure**: Teacher separates group into pairs giving each pair a container of beans and an egg carton. Teacher writes a division example on chalkboard, e.g., $5\overline{)28}$ and directs one pupil of each pair to count 28 beans into a set, sort them into subsets of 5 beans each using the egg carton as a sorting tray, and count both the number of equivalent subsets (5) and the number of beans in the remainder set (3) (Fig. I). Meanwhile, the other pupil of each pair performs the algorithm of the same example with paper and pencil by repeatedly subtracting 5. Pupil then tallies the number of times 5 is subtracted from 28 (Fig. II). Each pair of pupils compares results and records the work on their worksheets.

(Egg carton)

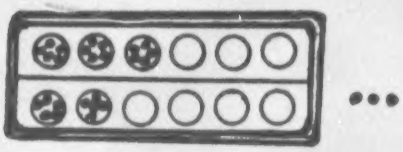


Fig. I

(Division example)

$$\begin{array}{rl} 5\overline{)28} & \\ -5 & 1 \\ \hline 23 & \\ -5 & 1 \\ \hline 18 & \\ -5 & 1 \\ \hline 13 & \\ -5 & 1 \\ \hline 8 & \\ -5 & 1 \\ \hline 3 & \end{array}$$

Fig. II

B-51

# DIVISION - REPEATED SUBTRACTION

Name ____________________________ Date ____________________

| | No. of subsets in dividend | No. of objects in remainder | | No. of subsets in dividend | No. of objects in remainder |
|---|---|---|---|---|---|
| $6\overline{)55}$ | | | $3\overline{)22}$ | | |
| $7\overline{)49}$ | | | $9\overline{)55}$ | | |
| $8\overline{)65}$ | | | $7\overline{)50}$ | | |
| $9\overline{)52}$ | | | $6\overline{)55}$ | | |
| $5\overline{)61}$ | | | $5\overline{)18}$ | | |
| $6\overline{)51}$ | | | $4\overline{)17}$ | | |
| $3\overline{)32}$ | | | $8\overline{)64}$ | | |
| $4\overline{)35}$ | | | $3\overline{)29}$ | | |
| $6\overline{)52}$ | | | $2\overline{)15}$ | | |

B-52

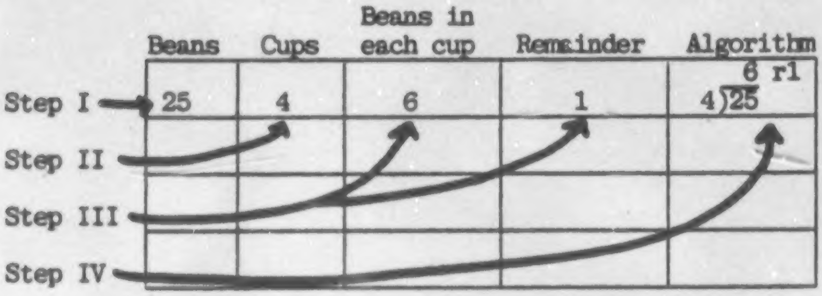
**Skill**: Do simple division problems without and with remainders.

**Activity I** : Pupils create and record division problems using beans and cups.

**Number of Participants**: Class or group

**Materials**: Cups (9 per 2 pupils), beans (100 per 2 pupils), duplicate worksheet on next page (1 per pupil).

**Procedure**: Overhead projector is used to demonstrate this activity. Teacher draws chart on screen (see illustration below). Each pupil has a similar chart. Teacher selects a pupil to take a handful of beans and place on projector so beans are visible on screen. Teacher and pupils count beans together. For example, if 25 beans are counted in pupil's handful, teacher records 25 on chart (Step I). Teacher then draws 4 circles (cups) and records 4 on chart (Step II). Teacher distributes 25 beans as evenly as possible among the four circles. Teacher and pupils count beans in each cup (6) with 1 left over and record information on chart (Step III). Teacher and pupils discuss how they have acted out and recorded a simple division problem. Teacher asks if any pupil has a simpler way to record what has just occurred. Hopefully, someone will write the algorithm $\overset{6\text{ r1}}{4\overline{)25}}$ in the last column of the chart (Step IV).



| | Beans | Cups | Beans in each cup | Remainder | Algorithm |
|---|---|---|---|---|---|
| Step I | 25 | 4 | 6 | 1 | $\overset{6\text{ r1}}{4\overline{)25}}$ |
| Step II | | | | | |
| Step III | | | | | |
| Step IV | | | | | |

# Division With Beans And Cups

Name ______________________ Date ____________________

| Beans | Cups | Beans in each cup | Remainder | Algorithm |
|---|---|---|---|---|
| | | | | |
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Skill: Show relationship between multiplication and division.

Activity I: Pupils "act out" division and multiplication examples to see the relationship between division and multiplication and write the corresponding number sentences.

Number of Participants: Class or group

Materials: Chalkboard

Procedure: Teacher chooses a product and writes it on chalkboard; e.g., 12. 12 pupils are selected to come to front of room. Teacher separates pupils into 4 sets of 3 and asks a pupil who is not a member of the sets to write a division sentence describing actions just performed by pupils. Pupil writes 12 ÷ 4 = 3 on chalkboard. Teacher asks another pupil to write a multiplication sentence describing how pupils are grouped to make a total of 12. Pupil writes 4 x 3 = 12.

Note: It is important that 4 x 3 = 12 be written instead of 3 x 4 = 12. The first numeral in a multiplication sentence tells how many sets there are. The second numeral tells how many there are in each set.

With same 12 pupils teacher then separates pupils into sets to represent other number sentences. Some examples are the following:

1. Separate yourselves into 2 equivalent sets.
2. Separate yourselves into 3 equivalent sets.
3. Separate yourselves into 6 equivalent sets.

After each separation a pupil is selected to write the division sentence illustrating action that has taken place. Another pupil should then write the related multiplication sentence.

Activity II : Do activity designed to show division is inverse operation of multiplication.

Number of Participants: Class or group

Materials: Chalkboard; duplicate worksheet on next page (1 per pupil).

Procedure: Teacher writes the following example on chalkboard, $\overset{\phantom{4}6}{8\overline{)\phantom{48}}}$.

Pupils are asked what the dividend is of this example (48). Teacher asks how they arrived at their answers. (By multiplying 8 x 6 = 48 or 6 x 8 = 48.) Teacher directs pupils to use manipulatives to verify that $\overset{6}{8\overline{)48}}$ and 8 x 6 = 48 or 6 x 8 = 48. Teacher and pupils do more examples together and then do worksheet individually or in pairs.

B-56

## Multiply to Find The Dividends

Name ______________________ Date ______________________

| | | | | |
|---|---|---|---|---|
| $\begin{array}{r} 7 \\ 6\overline{)\phantom{00}} \end{array}$ | $\begin{array}{r} 6 \\ 6\overline{)\phantom{00}} \end{array}$ | $\begin{array}{r} 5 \\ 9\overline{)\phantom{00}} \end{array}$ | $\begin{array}{r} 7 \\ 7\overline{)\phantom{00}} \end{array}$ | $\begin{array}{r} 8 \\ 6\overline{)\phantom{00}} \end{array}$ |
| $\begin{array}{r} 5 \\ 5\overline{)\phantom{00}} \end{array}$ | $\begin{array}{r} 7 \\ 8\overline{)\phantom{00}} \end{array}$ | $\begin{array}{r} 9 \\ 6\overline{)\phantom{00}} \end{array}$ | $\begin{array}{r} 5 \\ 8\overline{)\phantom{00}} \end{array}$ | $\begin{array}{r} 3 \\ 6\overline{)\phantom{00}} \end{array}$ |
| $\begin{array}{r} 7 \\ 4\overline{)\phantom{00}} \end{array}$ | $\begin{array}{r} 3 \\ 8\overline{)\phantom{00}} \end{array}$ | $\begin{array}{r} 6 \\ 8\overline{)\phantom{00}} \end{array}$ | $\begin{array}{r} 6 \\ 5\overline{)\phantom{00}} \end{array}$ | $\begin{array}{r} 3 \\ 9\overline{)\phantom{00}} \end{array}$ |
| $\begin{array}{r} 5 \\ 3\overline{)\phantom{00}} \end{array}$ | $\begin{array}{r} 8 \\ 5\overline{)\phantom{00}} \end{array}$ | $\begin{array}{r} 4 \\ 9\overline{)\phantom{00}} \end{array}$ | $\begin{array}{r} 9 \\ 2\overline{)\phantom{00}} \end{array}$ | $\begin{array}{r} 3 \\ 5\overline{)\phantom{00}} \end{array}$ |
| $\begin{array}{r} 8 \\ 8\overline{)\phantom{00}} \end{array}$ | $\begin{array}{r} 6 \\ 9\overline{)\phantom{00}} \end{array}$ | $\begin{array}{r} 9 \\ 5\overline{)\phantom{00}} \end{array}$ | $\begin{array}{r} 8 \\ 3\overline{)\phantom{00}} \end{array}$ | $\begin{array}{r} 8 \\ 4\overline{)\phantom{00}} \end{array}$ |
| $\begin{array}{r} 6 \\ 5\overline{)\phantom{00}} \end{array}$ | $\begin{array}{r} 8 \\ 7\overline{)\phantom{00}} \end{array}$ | $\begin{array}{r} 9 \\ 9\overline{)\phantom{00}} \end{array}$ | $\begin{array}{r} 7 \\ 9\overline{)\phantom{00}} \end{array}$ | $\begin{array}{r} 6 \\ 4\overline{)\phantom{00}} \end{array}$ |

CVCSD/A161(140)6-77

Skill: Understand fractions that are greater than (>), less than (<), and equal to (=).

Teacher Background:

Children acquire the concept that a fraction is "part of something" very early in life. Young children have had many experiences separating everyday items into parts ("fair shares," e.g., apples, oranges, candy bars, etc.) and come to school with preconceived ideas of fractions. The school program needs to develop, expand, and make more precise the concepts pupils have already acquired. Fractions should be formally taught in developmental levels beginning with the manipulative, to the representational, and then to the abstract.

A fraction can be thought of as part of a whole (Fig. I), or as part of a set (Fig. II).

$\frac{2}{3}$ of the whole is shaded

Fig. I

$\frac{2}{3}$ of the set is shaded

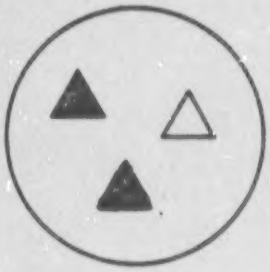


Fig. II

A fraction having the numerator 1 is called a unit fraction. Relationships between unit fractions may be determined by comparing denominators. The larger the denominator, the smaller the part represented by the fraction. Therefore, in comparing such fractions as $\frac{1}{6}$ and $\frac{1}{8}$, since the numerator is the same, it is necessary only to compare the denominators. If, however, the fractions have the same denominator but different numerators ($\frac{1}{4}$, $\frac{2}{4}$), it is necessary only to compare the numerators. The larger the numerator, the larger the part represented by the fraction.

Activity I: Make a fraction kit with construction paper.

Activity II: Play game, "Cover Up" with fraction kits.

Activity III: Use fraction chart to make comparisons of fractions.

Activity IV: Play game, "How Many In Between?"

Activity V: Play game, "Twenty Questions."

Activity VI: Discover fraction relationships using Cuisenaire Rods.

**Activity I**: Make a fraction kit with construction paper to be used for understanding equivalent fractions.

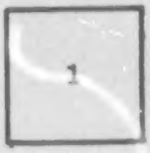
**Number of Participants**: Class or group

**Materials**: 5 sheets of construction paper, each a different color cut into 9" x 9" squares for each pupil. Envelopes for storage (1 per pupil).

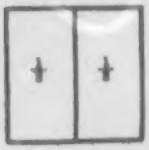
**Procedure**: Note: For purpose of describing this activity, the following five colors are used: red, blue, green, orange and yellow. However, any five colors may be used.

Leader directs pupils to make a fraction kit as follows:

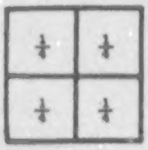
1. Label red square of paper 1.



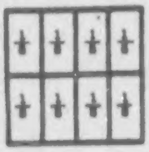
2. Fold blue square of paper in half, cut, and label both parts $\frac{1}{2}$ .



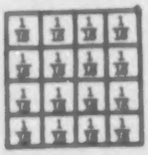
3. Fold green square of paper in fourths, cut, and label each part $\frac{1}{4}$ .



4. Fold orange square of paper in eighths, cut, and label each part $\frac{1}{8}$ .



5. Fold yellow square of paper in sixteenths, cut, and label each part $\frac{1}{16}$ .



Pupils gain understanding about fractions by making fraction kits. However, the following kinds of directions lead pupils to gain even more understanding.

1. "Name a fraction equivalent to $\frac{1}{2}$ ." Pupils look for sets of pieces that make the same size as $\frac{1}{2}$ (Answers: $\frac{2}{4}$ , $\frac{4}{8}$ , and $\frac{8}{16}$ .)

2. "Name a fraction equivalent to $\frac{1}{4}$." (Answers: $\frac{2}{8}$, $\frac{4}{16}$.)

3. "Add $\frac{1}{4}$ and $\frac{1}{4}$." (Answer: $\frac{2}{4}$.) "Is there a simpler answer?" (Answer: $\frac{1}{2}$.)

4. "Add $\frac{1}{4}$ and $\frac{1}{2}$." (Pupils rename $\frac{1}{2}$ as $\frac{2}{4}$; then add $\frac{1}{4} + \frac{2}{4} = \frac{3}{4}$.)

5. "Subtract $\frac{3}{8} - \frac{1}{8}$." (Answer: $\frac{2}{8}$.) "Is there a simpler answer?" (Answer: $\frac{1}{4}$.)

6. "Subtract $\frac{1}{4} - \frac{1}{8}$." (Pupils rename $\frac{1}{4}$ as $\frac{2}{8}$; then subtract: $\frac{2}{8} - \frac{1}{8} = \frac{1}{8}$.)

Activity II: Play game "Cover Up" using fraction kits made in Activity I to practice naming equivalent fractions.

Number of Participants: Class or group

Materials: Fraction kit (1 per pupil); die or spinner labeled $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$, $\frac{1}{8}$, $\frac{1}{16}$, $\frac{1}{16}$.

A large die cut from styrofoam is easier for pupils to see than small die.

Procedure: Object of game is to cover red square paper by fitting fractional parts of other colored pieces together. Group is separated into two teams. All team members place their red squares and fraction kits within easy reach and cover part of their red square when members of their team toss die; e.g., a member from Team I tosses die. It shows $\frac{1}{2}$. All members of Team I cover their red squares (1 whole) with one blue fractional piece labeled $\frac{1}{2}$. A member from Team II tosses die. It shows $\frac{1}{4}$. All members of Team II cover their red squares with one green piece labeled $\frac{1}{4}$. Game requires pupils to make equivalent fraction exchanges whenever possible; e.g., when $\frac{1}{4}$ and $\frac{1}{4}$ are placed on red square, players must exchange them for $\frac{1}{2}$. Play continues in this manner. First team to cover red square completely with no remainder wins.

Extension I: Groups of 3 - 4 pupils play the following variation of "Cover Up" to practice using equivalent fractions. Assign each player a color: one player has blue (halves), another green (fourths), another orange (eighths) and another yellow (sixteenths). Each player may only play his/her assigned fractional parts. Players take turns tossing die; e.g., player assigned green (fourths) tosses $\frac{1}{2}$ on die, exchanges $\frac{1}{2}$ for $\frac{2}{4}$ and places $\frac{2}{4}$ on red square. If same player tosses $\frac{1}{8}$ on die there are no possible exchanges, so he/she loses a turn. First player to cover the entire red square with no remainder is winner.

Activity III: Use Fraction Chart to make comparisons of fractions that are "equal to," "greater than," and "less than" other fractions.

Number of Participants: Class or group

Materials: Fraction Chart worksheet on next page (1 per pupil); 11 crayons of different colors.

Procedure: Coloring fraction charts is optional but it may be helpful to pupils. All pupils color their worksheets using the same colors. Pupils study their fraction charts. They may place a ruler on partition lines to help make comparisons. Teacher asks pupils to do activities like the following.

1. Find equivalent fractions for $\frac{1}{2}$.

   (Answers: $\frac{2}{4}$, $\frac{3}{6}$, $\frac{4}{8}$, $\frac{5}{10}$, and $\frac{6}{12}$.)

2. Name some fractions that are less than $\frac{1}{2}$.

   (Some possibilities are: $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{5}$, $\frac{1}{5}$, $\frac{2}{6}$, $\frac{1}{6}$, etc.)

3. Name some fractions that are greater than $\frac{1}{3}$.

   (Some possibilities are: $\frac{1}{2}$, $\frac{2}{3}$, $\frac{2}{4}$, $\frac{2}{5}$, etc.)

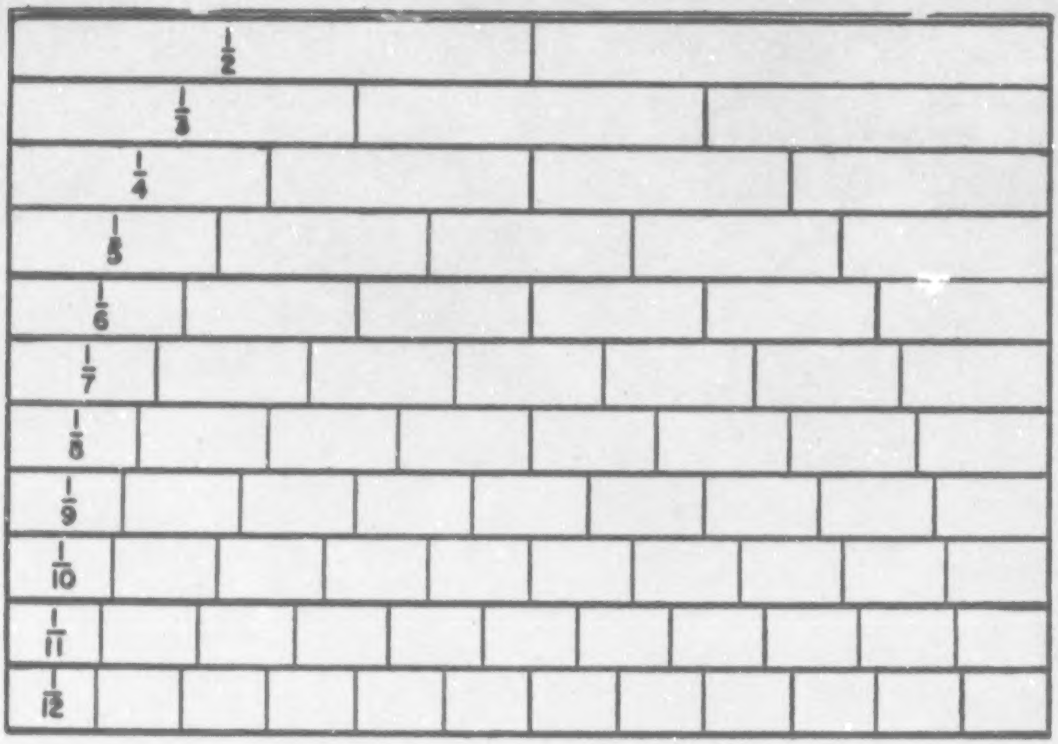
4. Find equivalent fractions for $\frac{1}{3}$.

   (Answers: $\frac{2}{6}$, $\frac{3}{9}$, and $\frac{4}{12}$.)

B-62

## FRACTION CHART

Name: ____________________ Date: ______________________



Write fraction sentences that are:

| = "equal to" | > "greater than" | < "less than" | "greater than" |
|---|---|---|---|
| $\frac{1}{2} = \frac{4}{8}$ | $\frac{1}{4} > \frac{1}{5}$ | $\frac{1}{4} < \frac{1}{3}$ | $\frac{1}{2} > \frac{1}{3} > \frac{1}{4} > \frac{1}{5}$ |
| = | > | < | > > > |
| = | > | < | > > > |
| = | > | < | > > > |
| = | > | < | > > > |
| = | > | < | > > > |

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Activity IV: Pupils play game "How Many In Between?" to name fractions between given pairs of fractions.

Number of Participants: Class or group

Materials: Chalkboard

Procedure: Class is separated into two teams. Teacher writes two fractions on chalkboard; e.g., $\frac{3}{4}$ and $\frac{7}{8}$. One member from each team writes as many fractions as he/she can that are between the two fractions written on chalkboard.

Team scores 1 point for each correct fraction named by their team members. For example, first player on Team I writes: $\frac{25}{32}$, $\frac{26}{32}$, $\frac{27}{32}$. First player on Team II writes: $\frac{13}{16}$. Team I gets 3 points and Team II gets 1 point. Game is continued in like manner with 2 different fractions.

Article V: Play game "Twenty Questions" to discover a fraction named by leader.

Number of Participants: Class or group

Materials: Chalkboard

Procedure: Leader thinks of a fraction that is less than 1 and records it where no one else can see it. Players have 20 questions to discover what it is. They must ask questions that can be answered by yes or no. For example, "Is it less than $\frac{1}{2}$?" or "Is it greater than $\frac{6}{8}$?" If players guess the fraction in 20 questions or less, they win. If not, the leader wins.

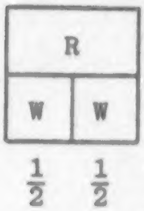
Variation: This activity may be played with decimal fractions.

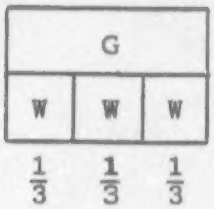
**Activity VI**: Discover fraction relationships using Cuisenaire rods

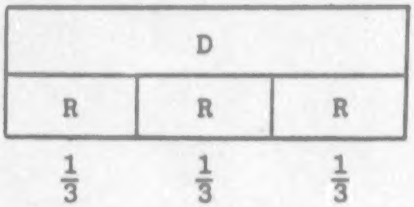
**Number of Participants**: Class, group or individual

**Materials**: Sets of Cuisenaire rods (1 per pupil).

**Procedure**: Teacher directs pupils to look for 2 rods of same color that are same length as any 1 rod, e.g., pupils discover that 2 white rods end to end make the same length as 1 red rod. Teacher says, "Since 2 white rods make the same length as 1 red rod can we say that 1 white rod is $\frac{1}{2}$ of a red rod?" (See illustration.) Activity is continued with pupils making more discoveries such as the following:







**Extension**: Teacher duplicates worksheet on next page. Pupils use Cuisenaire rods to find solutions. Worksheet should be completed like example below in which white is named 1.

| White | Red | Light Green | Purple | Yellow | Dark Green | Black | Brown | Blue | Orange |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

## FRACTION RELATIONSHIPS - CUISENAIRE RODS

NAME ______________________________ DATE ________________________

| | White | Red | Green | Purple | Yellow | D. Green | Black | Brown | Blue | Orange |
|---|---|---|---|---|---|---|---|---|---|---|
| White: 1 | ■ | | | | | | | | | |
| Red: 1 | | ■ | | | | | | | | |
| Green: 1 | | | ■ | | | | | | | |
| Purple: 1 | | | | ■ | | | | | | |
| Yellow: 1 | | | | | ■ | | | | | |
| Dark Green: 1 | | | | | | ■ | | | | |
| Black: 1 | | | | | | | ■ | | | |
| Brown: 1 | | | | | | | | ■ | | |
| Blue: 1 | | | | | | | | | ■ | |
| Orange: 1 | | | | | | | | | | ■ |

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Skill: Add and subtract fractions with like and unlike denominators.

Activity I: Play game "Cover Up" to add 2 fractions.

Activity II: Play game "Cover Up" to add 3 fractions.

Activity III: Play game "Uncover the Whole" to subtract fractions.

Activity IV: Play "Fraction Grid" game with overhead projector.

Activity I: Play variation of "Cover Up" (see page B-60) to practice adding fractions with like and unlike denominators. Game may be played with class separated into teams or with players in a group. A pair of dice is needed, both labeled same as single die. Players toss dice in turn, add 2 fractions that show up and place their corresponding fractional parts (pieces of colored paper) on red square using the fewest pieces of paper; e.g., if $\frac{1}{4}$ and $\frac{1}{4}$ are tossed, player should place one blue half on the whole. First player to cover entire whole with no remainder is winner.

Activity II: Play variation of "Cover Up" to practice adding 3 fractions with like and unlike denominators. Three dice are needed (all labeled same as single die). Players are paired; they combine fraction kits and play as partners. Object of game is to cover 2 red squares (wholes) with no remainders. Partners place their red squares in front of them. Players toss dice in turn, add 3 fractions that show up and place on their 2 red squares the fewest pieces of paper possible standing for the sum. Players may choose to cover one whole first and then cover the second one or make plays on both wholes at same time. Once a fractional piece is placed on one whole piece or the other it cannot be transferred to the other whole piece. E.g., partners toss dice: $\frac{1}{8}$, $\frac{1}{8}$ and $\frac{1}{8}$; they exchange $\frac{1}{8}$ and $\frac{1}{8}$ for $\frac{1}{4}$ and place $\frac{1}{8}$ and $\frac{1}{4}$ on their whole(s). First pair of players to cover both wholes completely with no remainders is winner.

Activity III: Play game "Uncover the Whole" to practice subtracting fractions with like and unlike denominators. A single die is needed labeled the same as the one mentioned on page B-60. Players place their red squares in front of them and cover them with all the yellow pieces ($\frac{16}{16}$). Object of game is to remove all yellow pieces to uncover the whole. Players toss die in turn and remove fractional pieces as designated by die; e.g., $\frac{1}{8}$ is tossed; player removes $\frac{2}{16}$ from the whole. To win, a player must toss exact fraction needed to uncover the whole.

Activity IV: Play "Fraction Grid" game in which pupils must add fractions with like and unlike denominators.

Number of Participants: Class or group

Materials: Overhead projector and screen, a transparency of a 7" x 7" grid and 49 discs just large enough to cover each cell of grid. 49 fractions are written in cells at random. Fractions need not be in simplest form but all should be less than 1; e.g., $\frac{1}{2}$, $\frac{2}{3}$, $\frac{3}{4}$, $\frac{2}{4}$, etc. Fractions may be repeated. Sample grid on next page may be made into an overhead transparency. Spaces are labeled so that plays may be called using coordinates; e.g., A6, B2, etc.

Procedure: Object of game is to match and add fractions on grid so that their totals are whole numbers. Leader separates class into two teams. One pupil from each team plays each turn while others watch results projected on the screen. Each player designates fractions to be added by naming coordinates of spaces containing those fractions. For example, using grid on next page, first player calls A7 ($\frac{2}{3}$), B7 ($\frac{1}{2}$), G5 ($\frac{1}{2}$), and B2 ($\frac{1}{3}$). Their sum is 2; player's team scores 2 points. Those 4 addends are then covered with discs and are no longer in play.

Rules:

1. Each player is limited to 4 addends at one time.
2. Sum of fractions must be a whole number to score points.
3. There must be same time limit for each play.

Extension I: Players must call at least one fraction with a denominator unlike the other denominators to score points; e.g., $\frac{3}{4} + \frac{1}{2} + \frac{3}{4} = 2$.

Extension II: Spaces in grid are covered with discs and players call coordinates without seeing fractions under discs. First few plays are chance calls, but game develops into a form of "Concentration."

# FRACTION GRID

Name: ______________________ Date: ______________

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 7 | $\frac{2}{3}$ | $\frac{1}{2}$ | $\frac{3}{4}$ | $\frac{2}{5}$ | $\frac{3}{5}$ | $\frac{1}{3}$ | $\frac{1}{2}$ |
| 6 | $\frac{3}{5}$ | $\frac{1}{4}$ | $\frac{1}{3}$ | $\frac{3}{4}$ | $\frac{1}{2}$ | $\frac{2}{3}$ | $\frac{2}{5}$ |
| 5 | $\frac{1}{5}$ | $\frac{1}{3}$ | $\frac{4}{5}$ | $\frac{2}{5}$ | $\frac{3}{4}$ | $\frac{1}{4}$ | $\frac{1}{2}$ |
| 4 | $\frac{2}{3}$ | $\frac{3}{4}$ | $\frac{1}{4}$ | $\frac{3}{5}$ | $\frac{1}{3}$ | $\frac{1}{5}$ | $\frac{2}{5}$ |
| 3 | $\frac{2}{3}$ | $\frac{1}{4}$ | $\frac{3}{5}$ | $\frac{2}{3}$ | $\frac{1}{4}$ | $\frac{2}{5}$ | $\frac{3}{5}$ |
| 2 | $\frac{3}{4}$ | $\frac{1}{3}$ | $\frac{2}{5}$ | $\frac{3}{5}$ | $\frac{1}{3}$ | $\frac{1}{2}$ | $\frac{2}{3}$ |
| 1 | $\frac{1}{5}$ | $\frac{3}{5}$ | $\frac{1}{3}$ | $\frac{1}{4}$ | $\frac{2}{3}$ | $\frac{1}{2}$ | $\frac{2}{5}$ |
| | A | B | C | D | E | F | G |

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Skill: Multiply fractions.

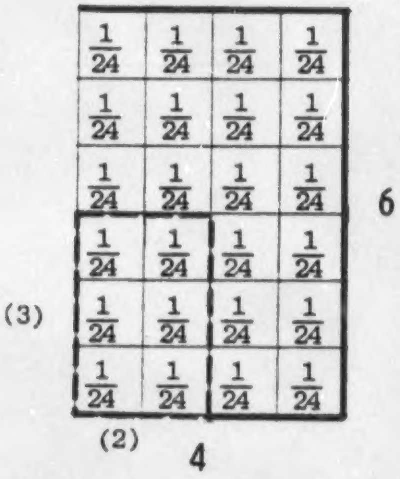
Activity I: Multiply fractions using graph paper.

Number of Participants: Class or small group

Materials: $\frac{1}{4}$" graph paper or centimeter graph paper (1 sheet per pupil).

Large sheet of 1" graph paper for demonstration purposes.

Procedure: Teacher writes a multiplication example on chalkboard; e.g., $\frac{2}{4} \times \frac{3}{6} = \square$ and demonstrates how it can be illustrated using graph paper. Teacher asks pupils to look at the denominators 4 and 6 and outlines a 4" x 6" region on graph paper. Then teacher asks pupils how many squares are inside the 4" x 6" region (24). Teacher asks pupils to name fraction that tells what part one square is of the whole region $(\frac{1}{24})$. Teacher labels each square $\frac{1}{24}$. Teacher then asks pupils to look at the numerators 2 and 3 and draws a 2" x 3" region inside original 4" x 6" region. Pupils count 6 squares $(\frac{6}{24})$ in 2" x 3" region and thus get the answer to the example: $\frac{2}{4} \times \frac{3}{6} = \frac{6}{24}$ (Fig. I). Teacher writes several more similar examples on chalkboard; e.g., $\frac{1}{5} \times \frac{2}{3} = \square$, $\frac{2}{3} \times \frac{4}{6} = \square$, etc. Pupils illustrate these on their graph paper and find the products.



| | | | |
|---|---|---|---|
| $\frac{1}{24}$ | $\frac{1}{24}$ | $\frac{1}{24}$ | $\frac{1}{24}$ |
| $\frac{1}{24}$ | $\frac{1}{24}$ | $\frac{1}{24}$ | $\frac{1}{24}$ |
| $\frac{1}{24}$ | $\frac{1}{24}$ | $\frac{1}{24}$ | $\frac{1}{24}$ |
| $\frac{1}{24}$ | $\frac{1}{24}$ | $\frac{1}{24}$ | $\frac{1}{24}$ |
| $\frac{1}{24}$ | $\frac{1}{24}$ | $\frac{1}{24}$ | $\frac{1}{24}$ |
| $\frac{1}{24}$ | $\frac{1}{24}$ | $\frac{1}{24}$ | $\frac{1}{24}$ |

Fig. I

Skill: Learn and apply problem solving skills and strategies to solve word problems and problems occuring in everyday situations.

Teacher Background:

Children often have the necessary computational skills to solve problems and yet are unable to apply these skills to answer word problems. They find it difficult to extract the ideas from the words. Further, they often do not see the relationship between day-to-day events and their mathematical structure. They cannot apply mathematics to solve problems occuring in their own immediate environment. This section presents techniques, procedures and activities for helping children develop problem solving skills and strategies together with suggestions for diagnosis of problem solving skills and ways to build on existing strengths.

## A. Characteristics of Good Problems

The selection or creation and design of a good problem is worth any amount of energy teachers can devote. The following suggestions may help in problem formulation:

1. Choose problems which give pupils direct experience in problem solving. Seek out and utilize the use of numbers in social situations in and out of school. Such problems have proved to be the most effective in helping pupils learn to solve problems. For example, have pupils determine at what time they must leave for a field trip in order to be at the destination at a specific time, or how much playground space must be set aside for the soccer, softball and dodgeball games, all of which will be going on simultaneously.

2. Choose problems important (significant) to the child. Children do not relate to many textbook problems because they are not important to them. They do not care how much money Mary spends for pencils which cost 12¢ each when she buys 3 of them. Furthermore, such examples rarely mention sales tax, a very real consideration which cannot be ignored in the child's everyday world. Too often children see mathematics as an activity isolated from their daily lives.

   Children do care about problems in which they have some involvement. The classroom provides an excellent source for such problems, particularly activities involving estimating, counting, measuring and graphing, (see Section B on the following pages).

3. Choose problem situations which involve real objects or their representations which children must move or change in order to find the answer.

4. Choose problems which offer opportunities for different levels of solutions.

5. Choose problems which are easy to duplicate. There should be many other similar situations available for practice and, consequently, generalization.

6. Use vocabulary which is as simple and familiar as possible.

7. Structure the problems so that children believe they can solve them and recognize when, in fact, they have.

## B. Samples of Motivational Problem-Solving Activities

1. Activities relating to physical education and health. Questions such as the following can be asked.

"How far do you think you can throw the ball?"... "kick the ball?" ..."run in 1 minute?" etc. "How high can you make the ball bounce?" "How long can you stand on 1 foot?" "How long will it take you to run around the playground?" "How many times can you stand up and sit down in 1 minute?" "How many times do you breathe in 1 minute?" "How many times does your heart beat in 1 minute (before and after exercising)?"

Children estimate their answers first and record these estimates. They then do the activity, record the result, compare it with their estimate and subtract to find the difference. Results are then tabulated on the chalkboard (See Figure I), discussed and described in graphic or story form.

Number of Heartbeats Each Minute

| Estimate (Guess) | Count | Difference |
|---|---|---|
| 10 | 90 | 80 |
| 33 | 88 | 55 |
| 50 | 90 | 40 |
| 80 | 80 | 0 |
| 116 | 76 | 40 |
| 140 | 82 | 58 |
| 90 | 92 | 2 |
| 100 | 67 | 33 |
| 75 | 85 | 10 |
| 170 | 83 | 87 |
| etc. | etc. | etc. |

Figure I

Children determine, discuss and record in sentences data such as which estimate is closest, which furthest, how many children overestimated, underestimated or were "right on," that there were more (or fewer) who underestimated than overestimated, and what the average pulse rate is (for pupils who know how to find averages).

Older children can also graph the results (see Figure II).

Number of Heartbeats Each Minute

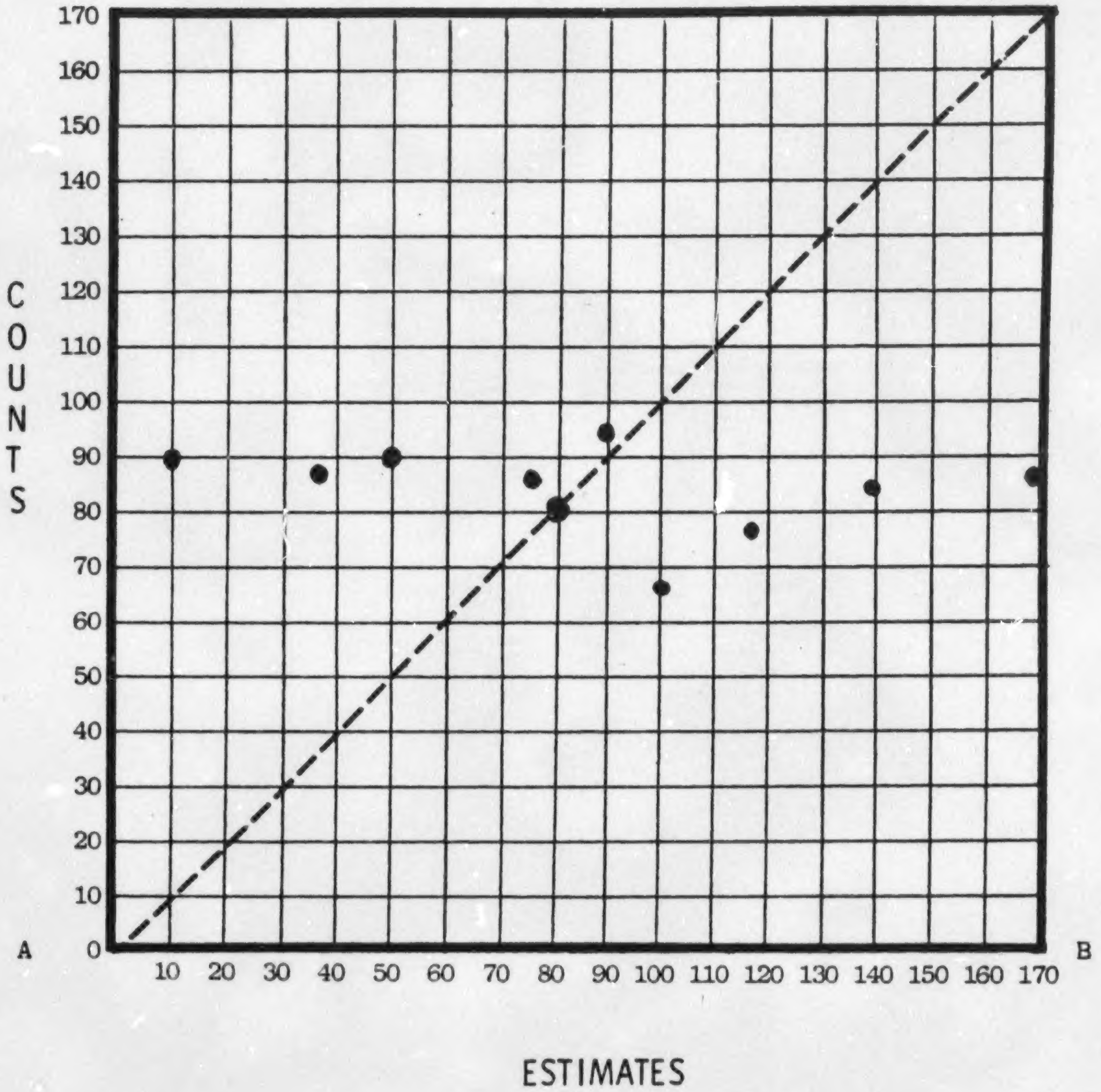


Figure II

The estimate is located in the horizontal axis and the accompanying count on the vertical axis. A point is made where these two lines intersect or meet. For example, the first estimate, 10, is located on the horizontal axis ($\overleftrightarrow{AB}$). This line (10) is followed straight up until the count (90) is reached. A point is made to represent this ordered pair of numbers (10, 90). Each estimate and count is thus represented by a point. A dashed line can be drawn to show where the points would be if everyone estimated perfectly.

This kind of graph helps pupils see at a glance how close their estimates are, how many under- and overestimate, the range of actual heartbeats and other such information. It is especially helpful if two variables are used which have a cause and effect or functional relationship, for example, the number of inches of rain and the quality of crops.

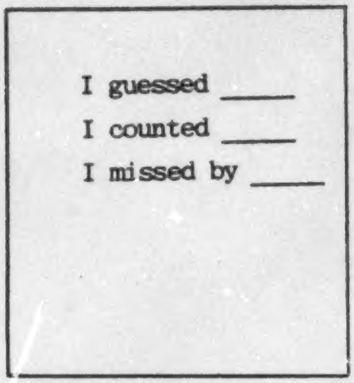
2. Activities relating directly to measurement (metric measure, time, money, etc.). Ask children to do such activities as the following.

"Use clay to make a ball that has the mass (weight) of 1 kilogram." (After doing this children actually measure to determine the mass of the clay ball and compare or subtract to see how well they estimated.) Other activities: "Draw a segment 10 centimeters long without using a ruler." "Walk across the room in exactly 1 minute without looking at a clock or watch." "Raise your hand at the end of 30 seconds " (no clock). "Talk for exactly 1 minute and then stop" (no clock). "Fill this container with 1 liter of water without using any measuring instrument." "Mark off 1 meter (5 meters, 10 meters, 100 meters, 1 kilometer, etc.) on the playground."

Activities like those just given motivate the child. Anyone is more challenged when he has made an investment in something and an estimate made by a person is an investment. In addition to the motivation, children get a great deal of practice in estimating, measuring, subtracting and graphing (should they choose to graph the results). Further, language development is stimulated as results are recorded, discussed and told in graphic or story form.

Tasks can be more involved. The class can be asked to mark off the surface dimensions of the airplane, "The Spirit of St. Louis" or a 747 jet on the playground.

3. Activities relating to counting. Set up a "Handful" center. Use objects appropriate for grasping in one hand and counting. For example, for first graders these might be walnuts in shells, marshmallows or cookies. For fourth graders they might be beans, macaroni, popped popcorn, cubes, etc. For older children they might be rice, unpopped popcorn, sand, etc. Pupils estimate first how many they think they can hold in one hand. They record their estimate either on a slip of paper (Fig. I) or in their "Handful" booklet (Fig. II).

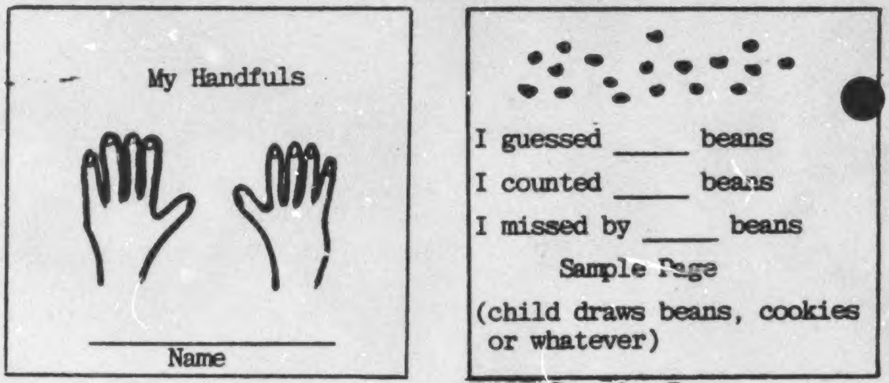


I guessed ____

I counted ____

I missed by ____

Fig. I



I guessed ____ beans

I counted ____ beans

I missed by ____ beans

Sample Page

(child draws beans, cookies or whatever)

Cover

Sample Page

Fig. II

This activity can be extended to a "Bagful," a "Boxful," or even a "Roomful" for older children.

4. Activities relating to data collection. Show children how to collect, record, tabulate and show data in bar or line graph form. Topics children have shown interest in include such things as:

Our pets
Favorite TV programs
Hair (Eye) color
Makes of cars in parking lot
Number of airplanes passing overhead each hour
Favorite school lunch
Times we get up (or go to bed)
Number of birthdays each month
Number of holidays each month
Favorite sport
Hobbies
Kinds of bikes
Number of miles per gallon for different cars
How we earn allowances
Number of hours each day we watch TV
Our breakfasts
Number of family members
Number of students absent each day
Number of students sent to Nurse (or Health Clerk) each day
Number of students sent to Principal each day

5. Making or cutting things to fit.

When making posters, decorating the room or a bulletin board, making a belt for a costume, etc., let children measure the amount of materials needed.

When wrapping boxes or other objects let children figure out and cut the amount of paper (ribbon, etc.) needed.

6. Putting things away. Let children put books on shelves, boxes in cupboards, beads, blocks, etc. in boxes to see which fit, which do not fit, and how best to arrange them.

## C. Problem Solving Strategies.

Children go through many steps in solving problems and not all use the same techniques. Nor is there only one way to solve a given problem. There are countless ways. It is the teacher's task to ask the children questions, to observe them in situations and make inferences from their actions concerning how they are thinking. Teachers should then go on to help children solve the problem as efficiently (and perhaps creatively) as possible.

Children need to be taught strategies for analyzing problems that lead to success in solving problems. The development of these strategies should begin with the pupil's first mathematical experiences and go right along with the development of each basic concept and skill. The following strategies have proved successful.

1. Restate the problem in own words. The most important step in any problem solving strategy is to be sure the child understands the problem. This is one way to find out. The child should be able to state the problem question and the facts needed.
2. Try to understand the problem as a whole first rather than a series of parts. Read through and discuss the entire problem rather than look for a word cue that tells only to add, subtract, multiply or divide (a mechanical, non-meaningful approach) or rather than analyze each part separately as you go along.
3. After trying to understand it as a whole, break the problem down into smaller parts (if any).
4. Estimate the answer first. Guess an answer; try it out. Guess another. Observe the results of the different guesses.
5. Construct a diagram, graph, table, picture or geometric representation of the problem; observe the relationship between the various parts of the problem.
6. Use objects to simulate the problem.
7. Compare the problem (or its parts) with simpler or similar problems that are more easily understood.
8. Dramatize the problem.
9. Check or prove the answer. Use manipulative devices or another mathematical operation to check all work. Go over the problem; substitute the answer; check it for correct computation and for reasonableness.

10. Solve problems without numbers. In working such problems, the pupil tells what step(s) and operation(s) should be used to solve the problem. Pupils are not distracted by numbers and the pupils can, therefore, focus on the method and operation needed. Following are some illustrative examples.

    a. Tom knows how many hours he slept in 4 nights. How can he find the average number of hours he slept for those 4 nights?

    b. Rosa knows how many cookies are in each of 3 boxes. How can she find how many cookies are in all 3 boxes together?

    c. Jose is to buy a loaf of bread, a quart of milk, a pint of orange juice, a pound of meat and a pound of butter. How can he find the amount he needs to pay for all of them?

    d. How can Steve find how much money he has? He has some in the bank, a check made out to him in his hand and some in his piggy bank.

    e. Nancy weighs less than Helen. How can she find how much less she weighs?

    f. Ann wants to buy a book that costs more than another book. How can she find how much less it costs?

    g. Yolanda earns the same amount each day. She works a certain number of days. How can you find how much she earns altogether?

11. Make up own problems. Children gain insight into problems, their structure and solutions by making up their own problems. Write problems on the chalkboard or on paper as children dictate them. Point out that in mathematics books the question often comes last but in life it often comes first. Help children state problems in which the question comes first.

    Often children's problems have insufficient or irrelevant data and ambiguous questions. Help children restate their problems so that they are clear and can be solved.

    Duplicate some of the children's own problems and let other class members solve them. Identifying each problem with the child's name is often motivating.

12. Make up words to go with computation examples in textbook. (Note: This is a very revealing activity; it is often difficult for pupils to do and becomes even more difficult as pupils progress through the grades.)

13. Label answers. To help children understand the nature of problems they are asked to solve, focus their attention on the meaning of the answer by having them label the parts and answer. For example, "There are 30 children in the class with 6 at each table. How

many tables are there?" When children get the answer (5), ask what the 5 stands for (children? tables?).

14. Decide on what the answer depends. Help children understand relationships in problems by stating what facts are needed in order to get the kind of answer that is asked for. For example, "Will 8 chairs be enough for the math group? On what does the answer depend?" Or, "You want to know how many teams you can make with 50 children. On what does the answer depend?"

15. Solve problems mentally. Children can maintain and develop both computational and problem solving ability by solving problems "in their head." As children try to solve problems mentally the emphasis is on thinking rather than recall of facts. Children learn to see relationships within parts of problems and types of problems. In addition to the usual types of mental problems have children do the following (at appropriate levels of development).

    a. Count by 2's to 19. Begin with 1.
    b. Count by 3's to 44. Begin with 2.
    c. Add 6 to each: 32, 78, 45, 97.
    d. Subtract 10 from each: 84, 73, 60, 92.
    e. Multiply each by 2: 4, 10, 3, 8, 12.
    f. Divide each by 4: 24, 4, 8, 40, 80.
    g. What is one half of 30? 60? 120? 240?
    h. Multiply each by 2 and then add 6: 2, 8, 3, 10.
    i. How many minutes in 2 hours?
    j. How many minutes from 10:45 to 11:15?
    k. 3 dimes, 2 nickels and 4 pennies gives how many cents?
    l. How many 13¢ stamps can you get for 50¢?
    m. How many centimeters are there in 2 meters?
    n. What are the next five whole numbers after 99? 999? 9999?
    o. Simplify: $\frac{4}{3}, \frac{4}{2}, \frac{6}{3}, \frac{8}{10}, \frac{5}{10}$.
    p. How many digits in 4 million?
    q. How many zeros in 70 million?
    r. Round to the nearest 100: 587, 313, 298.
    s. Change to minutes: 1 hour 14 minutes; 2 hours 6 minutes.
    t. Divide each by 10: 100, 4000, 800.
    u. Divide each by 100: 10,000; 1,000,000.

16. Record or copy numerals given orally or on paper; solve problems using them. Often pupils make errors because they do not record or copy numerals correctly. In particular, place value is often ignored and digits are not aligned correctly.

17. Give pupils examples that already have correct answers. Have them tell how the answers were obtained - what steps were taken and what operation(s) performed.

## D. Diagnosis of Difficulties in Problem Solving

The following procedures may be of help in making a preliminary diagnosis of a pupil's problem solving skills, especially if these skills seem below expectations.

1. Give pupil a computation test to determine computational skills. Inability to compute correctly may be the cause or may contribute to the difficulty.
2. Give pupil a problem solving test; analyze pupil's computations. Test to see if methods of solution were correct.
3. Check pupil's recording of numerals in trying to solve problems. Have they been recorded correctly? Are they aligned correctly? Are numerals and signs written clearly so misinterpretation is not likely?
4. Analyze pupil's responses for any evident misconceptions or faulty ideas.
5. Check pupil's general reading ability to see if vocabulary or comprehension could be a problem.

After completing the above preliminary diagnosis a more complete pupil analysis should be done which includes the following.

1. Determine ability to read orally.
2. Test for knowledge of measurement terms and relationships.
3. Test for knowledge of basic facts, operations (algorithms), rules and formulas.
4. Test ability to identify operation used to solve problem (addition, subtraction, multiplication, division; one-step, two-step, etc.).
5. Test ability to estimate answers in advance and judge them for reasonableness.
6. Test ability to remember facts and solve oral problems.
7. Analyze pupil's method of attack on given problems.
8. Ask pupil to make up problem similar to given problem.
9. Have pupil make drawing, diagram, etc., of problem.
10. Check pupil's ability to interpret tables, graphs, etc.
11. Check pupil's health, interests, personality, history, etc.

E. Building on Existing Strengths. Much of the material already given in this section covers material appropriate here. However the following principles of learning can also be extremely important in helping children solve problems.

1. Even children who seem unable to solve most problems possess some intellectual strengths that can be used as a basis for learning. Most children have some basic skills. These must be determined through diagnosis and then used as a foundation for future growth. Most children can, in fact, deal quite well with manipulatives...concrete objects. The difficult part is for them to transfer what they can do here to the representational stage (pictures) and then to the abstract stage (symbols). Never, never, do we assume that children make this transfer. The transfer is very difficult for some to do; it must be taught, specifically.

2. Children's strengths, referred to in Item 1 above, often include counting. Children count to solve problems which can be solved by adding, subtracting or multiplying. So do adults. How many months is it from May until February?

   It is necessary to help children see how they use counting to solve problems and help them see and use shortcuts (addition, multiplication, etc.) rather than counting.

3. Success breeds success. Not only is success likely to produce more success, it helps to prevent or eliminate emotional difficulties. Improved performance, recognized by the learner and others, changes performance radically. Children sparkle! Success is its own reward, but it also is nice to share with others!

4. Use informal methods as well as structured ones to help children. Use methods and words children can understand. Look for the glint of understanding; seize it and build on it. If it works, it's great.

   Informal procedures, in addition to being successful, often relax children...help them get rid of learning hangups and allow them freedom to show what they can do in nonstandardized ways.

## Basic Computational Facts Sheets

The following basic computational fact sheets can be used in a variety of ways. Teachers can use them as a source of cards for open-ended games. They can be used for review and practice purposes just as they are or broken down into shorter reviews. When used in these ways, they can be timed, if desired. The amount of time it takes each pupil to complete the examples is written at the top of the page, together with the number correct. As pupils progress, they try to get all items correct and also improve the time required for them to accomplish this.

Textbooks currently in use by the District develop basic addition and subtraction facts with sums through 12 at Grade 1, and with sums through 18 at Grade 2. Basic multiplication facts with 2's and 5's are also taught at Grade 2. Basic multiplication and division facts through products of 81 are taught at Grade 3.

Name ______________________ B-81

Date ______________________

## 55 Addition Facts (Sums through 9)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 4<br>+4 | 3<br>+2 | 8<br>+0 | 2<br>+7 | 2<br>+0 | 3<br>+4 | 8<br>+1 | 1<br>+7 |
| 7<br>+0 | 2<br>+5 | 1<br>+4 | 9<br>+0 | 6<br>+3 | 1<br>+5 | 0<br>+7 | 4<br>+3 |
| 0<br>+6 | 3<br>+0 | 4<br>+2 | 0<br>+0 | 7<br>+2 | 4<br>+0 | 1<br>+8 | 0<br>+1 |
| 2<br>+1 | 0<br>+8 | 5<br>+2 | 1<br>+3 | 0<br>+5 | 6<br>+2 | 5<br>+3 | 4<br>+1 |
| 1<br>+1 | 6<br>+0 | 4<br>+5 | 1<br>+0 | 1<br>+6 | 0<br>+9 | 3<br>+3 | 5<br>+4 |
| 6<br>+1 | 3<br>+5 | 5<br>+0 | 2<br>+6 | 0<br>+4 | 7<br>+1 | 3<br>+1 | 0<br>+3 |
| 0<br>+2 | 5<br>+1 | 2<br>+4 | 1<br>+2 | 3<br>+6 | 2<br>+2 | 2<br>+3 | |

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Date ______________________

## 55 Subtraction Facts (0-9)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 8 | 7 | 6 | 1 | 5 | 9 | 4 | 2 |
| -4 | -2 | -3 | -0 | -5 | -6 | -3 | -1 |
| 9 | 6 | 8 | 4 | 1 | 7 | 5 | 3 |
| -1 | -4 | -2 | -2 | -1 | -3 | -4 | -0 |
| 7 | 9 | 6 | 8 | 5 | 4 | 9 | 0 |
| -7 | -0 | -5 | -6 | -3 | -1 | -8 | -0 |
| 5 | 8 | 9 | 7 | 6 | 3 | 8 | 9 |
| -0 | -5 | -7 | -6 | -2 | -3 | -0 | -3 |
| 9 | 6 | 8 | 7 | 9 | 5 | 4 | 8 |
| -9 | -6 | -1 | -5 | -4 | -2 | -0 | -8 |
| 7 | 8 | 9 | 6 | 2 | 4 | 3 | 7 |
| -4 | -7 | -5 | -1 | -0 | -4 | -2 | -1 |
| 2 | 3 | 5 | 6 | 9 | 8 | 7 | |
| -2 | -1 | -1 | -0 | -2 | -3 | -0 | |

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## 64 Addition Facts (Sums through 10)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 4<br>+5 | 6<br>+2 | 4<br>+1 | 0<br>+1 | 4<br>+3 | 5<br>+5 | 1<br>+7 | 0<br>+5 |
| 5<br>+2 | 1<br>+8 | 6<br>+4 | 5<br>+3 | 6<br>+0 | 4<br>+0 | 1<br>+3 | 8<br>+2 |
| 0<br>+8 | 4<br>+2 | 3<br>+7 | 0<br>+0 | 7<br>+2 | 9<br>+0 | 1<br>+4 | 6<br>+3 |
| 0<br>+7 | 3<br>+0 | 4<br>+6 | 1<br>+5 | 3<br>+2 | 8<br>+0 | 2<br>+7 | 2<br>+0 |
| 3<br>+4 | 8<br>+1 | 2<br>+5 | 6<br>+1 | 1<br>+1 | 2<br>+1 | 0<br>+6 | 7<br>+0 |
| 4<br>+4 | 2<br>+3 | 2<br>+2 | 3<br>+6 | 1<br>+2 | 2<br>+4 | 9<br>+1 | 7<br>+1 |
| 2<br>+8 | 0<br>+2 | 3<br>+1 | 5<br>+1 | 0<br>+3 | 1<br>+9 | 0<br>+4 | 2<br>+6 |
| 5<br>+0 | 3<br>+5 | 7<br>+3 | 1<br>+6 | 5<br>+4 | 1<br>+0 | 0<br>+9 | 3<br>+3 |

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## 64 Subtraction Facts (0-10)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1<br>-0 | 10<br>- 5 | 8<br>-4 | 9<br>-9 | 6<br>-1 | 5<br>-0 | 10<br>- 2 | 9<br>-0 |
| 7<br>-6 | 3<br>-3 | 6<br>-0 | 1<br>-1 | 10<br>- 9 | 7<br>-0 | 9<br>-1 | 8<br>-5 |
| 10<br>- 3 | 7<br>-5 | 2<br>-0 | 7<br>-7 | 5<br>-2 | 2<br>-2 | 9<br>-7 | 10<br>- 6 |
| 4<br>-0 | 8<br>-3 | 6<br>-6 | 3<br>-2 | 9<br>-2 | 4<br>-1 | 0<br>-0 | 5<br>-4 |
| 8<br>-8 | 7<br>-4 | 6<br>-5 | 9<br>-4 | 5<br>-1 | 8<br>-2 | 3<br>-0 | 7<br>-1 |
| 9<br>-8 | 6<br>-4 | 10<br>- 1 | 8<br>-0 | 4<br>-2 | 2<br>-1 | 8<br>-7 | 6<br>-3 |
| 9<br>-5 | 10<br>- 8 | 5<br>-5 | 4<br>-3 | 7<br>-2 | 8<br>-1 | 3<br>-1 | 10<br>- 4 |
| 6<br>-2 | 9<br>-3 | 5<br>-3 | 8<br>-6 | 7<br>-3 | 10<br>- 7 | 9<br>-6 | 4<br>-4 |

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## 79 Addition Facts (Sums through 12)

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 4<br>+5 | 6<br>+2 | 4<br>+1 | 0<br>+1 | 9<br>+2 | 4<br>+3 | 5<br>+5 | 1<br>+7 | 0<br>+5 |
| 7<br>+4 | 5<br>+2 | 1<br>+8 | 6<br>+4 | 5<br>+7 | 5<br>+3 | 6<br>+0 | 4<br>+0 | 1<br>+3 |
| 8<br>+3 | 8<br>+2 | 0<br>+8 | 4<br>+2 | 3<br>+7 | 3<br>+9 | 0<br>+0 | 7<br>+2 | 9<br>+0 |
| 1<br>+4 | 6<br>+5 | 6<br>+3 | 0<br>+7 | 3<br>+0 | 4<br>+6 | 4<br>+8 | 1<br>+5 | 3<br>+2 |
| 8<br>+0 | 2<br>+7 | 7<br>+5 | 2<br>+0 | 3<br>+4 | 8<br>+1 | 2<br>+5 | 6<br>+6 | 6<br>+1 |
| 1<br>+1 | 2<br>+1 | 0<br>+6 | 8<br>+4 | 7<br>+0 | 4<br>+4 | 2<br>+3 | 2<br>+2 | 2<br>+9 |
| 3<br>+6 | 1<br>+2 | 2<br>+4 | 9<br>+1 | 4<br>+7 | 7<br>+1 | 2<br>+8 | 0<br>+2 | 3<br>+1 |
| 3<br>+8 | 5<br>+1 | 0<br>+3 | 1<br>+9 | 0<br>+4 | 5<br>+6 | 2<br>+6 | 5<br>+0 | 3<br>+5 |
| 7<br>+3 | 9<br>+3 | 1<br>+6 | 5<br>+4 | 1<br>+0 | 0<br>+9 | 3<br>+3 | | |

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## 79 Subtraction Facts (0-12)

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 12<br>- 3 | 3<br>-1 | 10<br>- 4 | 6<br>-2 | 9<br>-3 | 5<br>-3 | 11<br>- 6 | 8<br>-6 | 7<br>-3 |
| 10<br>- 7 | 9<br>-6 | 4<br>-4 | 8<br>-1 | 11<br>- 4 | 7<br>-2 | 4<br>-3 | 5<br>-5 | 10<br>- 8 |
| 9<br>-5 | 6<br>-3 | 8<br>-7 | 2<br>-1 | 5<br>-1 | 8<br>-2 | 3<br>-0 | 12<br>- 9 | 7<br>-1 |
| 9<br>-8 | 6<br>-4 | 10<br>- 1 | 8<br>-0 | 4<br>-2 | 11<br>- 2 | 11<br>- 5 | 9<br>-4 | 12<br>- 8 |
| 6<br>-5 | 7<br>-4 | 8<br>-8 | 5<br>-4 | 0<br>-0 | 4<br>-1 | 9<br>-2 | 7<br>-7 | 5<br>-2 |
| 2<br>-2 | 9<br>-7 | 10<br>- 6 | 4<br>-0 | 12<br>- 4 | 8<br>-3 | 6<br>-6 | 11<br>- 7 | 3<br>-2 |
| 2<br>-0 | 7<br>-5 | 12<br>- 7 | 10<br>- 3 | 8<br>-5 | 9<br>-1 | 12<br>- 6 | 7<br>-0 | 10<br>- 9 |
| 11<br>- 3 | 1<br>-1 | 11<br>- 8 | 6<br>-0 | 10<br>- 5 | 12<br>- 5 | 1<br>-0 | 11<br>- 9 | 8<br>-4 |
| 9<br>-9 | 6<br>-1 | 5<br>-0 | 10<br>- 2 | 9<br>-0 | 7<br>-6 | 3<br>-3 | | |

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## 100 Addition Facts

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6<br>+1 | 7<br>+9 | 1<br>+1 | 5<br>+7 | 8<br>+9 | 2<br>+1 | 4<br>+7 | 0<br>+6 | 9<br>+4 | 7<br>+0 |
| 3<br>+8 | 4<br>+4 | 2<br>+3 | 8<br>+6 | 2<br>+2 | 3<br>+6 | 1<br>+2 | 8<br>+7 | 2<br>+4 | 9<br>+1 |
| 7<br>+1 | 2<br>+8 | 9<br>+3 | 0<br>+2 | 8<br>+5 | 6<br>+9 | 3<br>+1 | 2<br>+9 | 5<br>+1 | 4<br>+8 |
| 9<br>+6 | 0<br>+3 | 6<br>+5 | 0<br>+4 | 1<br>+9 | 2<br>+6 | 5<br>+0 | 9<br>+9 | 3<br>+5 | 6<br>+6 |
| 7<br>+3 | 1<br>+6 | 5<br>+4 | 6<br>+8 | 1<br>+0 | 7<br>+7 | 8<br>+3 | 0<br>+9 | 5<br>+8 | 3<br>+3 |
| 4<br>+5 | 6<br>+2 | 4<br>+1 | 9<br>+5 | 0<br>+1 | 7<br>+4 | 4<br>+3 | 5<br>+5 | 1<br>+7 | 9<br>+8 |
| 1<br>+8 | 0<br>+5 | 7<br>+8 | 5<br>+2 | 6<br>+4 | 5<br>+3 | 6<br>+0 | 4<br>+9 | 1<br>+3 | 5<br>+6 |
| 4<br>+0 | 8<br>+2 | 7<br>+5 | 0<br>+8 | 4<br>+2 | 3<br>+7 | 0<br>+0 | 5<br>+9 | 7<br>+2 | 8<br>+4 |
| 9<br>+0 | 7<br>+6 | 1<br>+4 | 6<br>+3 | 0<br>+7 | 8<br>+8 | 3<br>+0 | 4<br>+6 | 1<br>+5 | 9<br>+7 |
| 3<br>+2 | 8<br>+0 | 2<br>+7 | 3<br>+9 | 2<br>+0 | 3<br>+4 | 9<br>+2 | 6<br>+7 | 8<br>+1 | 2<br>+5 |

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## 100 Subtraction Facts

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4<br>-3 | 11<br>- 6 | 9<br>-2 | 12<br>- 8 | 8<br>-2 | 14<br>- 5 | 2<br>-0 | 7<br>-6 | 10<br>- 4 | 4<br>-0 |
| 10<br>- 2 | 13<br>- 6 | 3<br>-2 | 9<br>-6 | 5<br>-0 | 9<br>-9 | 13<br>- 5 | 6<br>-4 | 0<br>-0 | 7<br>-3 |
| 11<br>- 2 | 7<br>-0 | 8<br>-3 | 4<br>-1 | 12<br>- 5 | 10<br>- 8 | 11<br>- 7 | 8<br>-8 | 11<br>- 5 | 10<br>- 9 |
| 18<br>- 9 | 5<br>-1 | 11<br>- 8 | 9<br>-8 | 5<br>-3 | 17<br>- 9 | 10<br>- 1 | 3<br>-0 | 15<br>- 8 | 6<br>-6 |
| 12<br>- 3 | 8<br>-4 | 2<br>-1 | 10<br>- 6 | 9<br>-1 | 15<br>- 6 | 8<br>-0 | 7<br>-5 | 4<br>-4 | 16<br>- 9 |
| 7<br>-1 | 9<br>-5 | 13<br>- 7 | 5<br>-4 | 17<br>- 8 | 4<br>-2 | 6<br>-0 | 9<br>-7 | 11<br>- 4 | 2<br>-2 |
| 7<br>-2 | 12<br>- 6 | 14<br>- 9 | 10<br>- 7 | 6<br>-1 | 12<br>- 4 | 8<br>-1 | 9<br>-4 | 5<br>-5 | 13<br>- 4 |
| 8<br>-6 | 14<br>- 7 | 15<br>- 9 | 11<br>- 3 | 1<br>-0 | 7<br>-4 | 14<br>- 6 | 6<br>-5 | 16<br>- 8 | 3<br>-3 |
| 5<br>-2 | 13<br>- 9 | 10<br>- 3 | 15<br>- 7 | 10<br>- 5 | 8<br>-7 | 9<br>-3 | 13<br>- 8 | 7<br>-7 | 14<br>- 8 |
| 12<br>- 9 | 16<br>- 7 | 3<br>-1 | 9<br>-0 | 12<br>-7 | 6<br>-3 | 1<br>-1 | 6<br>-2 | 11<br>- 9 | 8<br>-5 |

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## Multiplication - (2's, 3's, 5's)

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2<br>x 6 | 3<br>x 3 | 1<br>x 2 | 5<br>x 4 | 2<br>x 9 | 5<br>x 1 | 3<br>x 7 | 2<br>x 2 | 8<br>x 5 |
| 3<br>x 9 | 1<br>x 5 | 7<br>x 2 | 5<br>x 6 | 8<br>x 2 | 1<br>x 3 | 5<br>x 5 | 3<br>x 6 | 4<br>x 2 |
| 2<br>x 5 | 4<br>x 3 | 5<br>x 8 | 2<br>x 4 | 7<br>x 3 | 6<br>x 2 | 5<br>x 7 | 2<br>x 8 | 9<br>x 5 |
| 8<br>x 3 | 2<br>x 1 | 3<br>x 5 | 2<br>x 3 | 9<br>x 2 | 3<br>x 4 | 5<br>x 2 | 7<br>x 5 | 9<br>x 3 |
| 3<br>x 2 | 4<br>x 5 | 6<br>x 3 | 5<br>x 9 | 3<br>x 1 | 2<br>x 7 | 3<br>x 8 | 5<br>x 3 | 6<br>x 5 |

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## Division - (2's, 3's, 5's)

2)12 3)9 1)2 5)20 2)18 5)5 3)21 2)4 8)40

3)27 1)5 7)14 5)30 8)16 1)3 5)25 3)18 4)8

2)10 4)12 5)40 2)8 7)21 6)12 5)35 2)16 9)45

8)24 2)2 3)15 2)6 9)18 3)12 5)10 7)35 9)27

3)6 4)20 6)18 5)45 3)3 2)14 3)24 5)15 6)30

Name ____________________

Date ____________________

## 100 Multiplication Facts

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 2<br>x1 | 3<br>x0 | 1<br>x4 | 0<br>x5 | 2<br>x2 | 1<br>x9 | 3<br>x2 | 7<br>x0 | 5<br>x2 | 3<br>x3 |
| 0<br>x7 | 8<br>x1 | 4<br>x2 | 2<br>x3 | 5<br>x0 | 6<br>x3 | 2<br>x6 | 0<br>x1 | 1<br>x7 | 3<br>x5 |
| 6<br>x2 | 4<br>x4 | 2<br>x0 | 7<br>x2 | 5<br>x1 | 2<br>x5 | 4<br>x3 | 6<br>x0 | 8<br>x2 | 9<br>x1 |
| 1<br>x4 | 1<br>x1 | 9<br>x2 | 0<br>x2 | 7<br>x1 | 2<br>x4 | 5<br>x3 | 6<br>x1 | 0<br>x8 | 3<br>x7 |
| 0<br>x0 | 7<br>x3 | 3<br>x4 | 4<br>x5 | 1<br>x6 | 1<br>x0 | 2<br>x9 | 3<br>x8 | 4<br>x0 | 5<br>x4 |
| 4<br>x7 | 2<br>x8 | 9<br>x0 | 1<br>x2 | 8<br>x3 | 5<br>x5 | 0<br>x3 | 3<br>x6 | 4<br>x9 | 8<br>x0 |
| 6<br>x4 | 3<br>x1 | 7<br>x5 | 0<br>x4 | 5<br>x6 | 4<br>x8 | 8<br>x5 | 7<br>x9 | 6<br>x7 | 0<br>x9 |
| 2<br>x7 | 5<br>x8 | 6<br>x9 | 3<br>x6 | 7<br>x4 | 9<br>x3 | 0<br>x6 | 4<br>x6 | 5<br>x9 | 1<br>x8 |
| 7<br>x7 | 3<br>x9 | 6<br>x5 | 7<br>x8 | 9<br>x9 | 6<br>x8 | 8<br>x4 | 9<br>x8 | 1<br>x5 | 8<br>x8 |
| 9<br>x4 | 8<br>x7 | 1<br>x3 | 9<br>x5 | 6<br>x6 | 9<br>x7 | 7<br>x6 | 5<br>x7 | 9<br>x6 | 8<br>x9 |

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Date_____________________________

## 90 Division Facts

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| $2\overline{)4}$ | $1\overline{)3}$ | $3\overline{)9}$ | $5\overline{)0}$ | $7\overline{)7}$ | $9\overline{)0}$ | $1\overline{)6}$ | $2\overline{)14}$ | $3\overline{)0}$ |
| $4\overline{)4}$ | $2\overline{)8}$ | $1\overline{)5}$ | $3\overline{)15}$ | $1\overline{)0}$ | $2\overline{)12}$ | $1\overline{)9}$ | $6\overline{)6}$ | $7\overline{)0}$ |
| $8\overline{)16}$ | $1\overline{)4}$ | $2\overline{)6}$ | $4\overline{)0}$ | $1\overline{)7}$ | $2\overline{)16}$ | $4\overline{)12}$ | $3\overline{)6}$ | $1\overline{)1}$ |
| $8\overline{)8}$ | $1\overline{)2}$ | $3\overline{)18}$ | $3\overline{)3}$ | $5\overline{)15}$ | $7\overline{)21}$ | $6\overline{)0}$ | $9\overline{)18}$ | $1\overline{)8}$ |
| $3\overline{)24}$ | $2\overline{)2}$ | $8\overline{)0}$ | $6\overline{)18}$ | $3\overline{)12}$ | $2\overline{)0}$ | $5\overline{)5}$ | $6\overline{)12}$ | $9\overline{)9}$ |
| $4\overline{)16}$ | $5\overline{)10}$ | $4\overline{)20}$ | $7\overline{)14}$ | $4\overline{)8}$ | $8\overline{)24}$ | $3\overline{)21}$ | $5\overline{)35}$ | $8\overline{)40}$ |
| $2\overline{)18}$ | $4\overline{)24}$ | $6\overline{)30}$ | $4\overline{)36}$ | $5\overline{)40}$ | $5\overline{)25}$ | $3\overline{)27}$ | $6\overline{)54}$ | $9\overline{)63}$ |
| $8\overline{)64}$ | $6\overline{)42}$ | $5\overline{)30}$ | $4\overline{)28}$ | $6\overline{)24}$ | $9\overline{)27}$ | $8\overline{)56}$ | $6\overline{)48}$ | $4\overline{)36}$ |
| $9\overline{)81}$ | $8\overline{)48}$ | $5\overline{)45}$ | $4\overline{)32}$ | $7\overline{)56}$ | $9\overline{)72}$ | $7\overline{)42}$ | $6\overline{)36}$ | $5\overline{)40}$ |
| $7\overline{)63}$ | $8\overline{)32}$ | $9\overline{)54}$ | $7\overline{)28}$ | $5\overline{)20}$ | $7\overline{)35}$ | $8\overline{)72}$ | $7\overline{)49}$ | $9\overline{)45}$ |

## CHULA VISTA PRESCRIPTIVE MATHEMATICS PROGRAM

## SUGGESTIONS FOR OPEN-ENDED MATHEMATICS GAMES

### A. Materials Needed

1. Open-ended gameboards. (Gameboards with 20-30 spaces, a starting and finishing point, and any directions desired)

2. Markers. 2 or more

3. Dice or spinner

4. Cards. Sets of 20-40 problem cards (See following pages.)

### B. Directions for Making Gameboards, Markers, Dice and Cards

1. Gameboards. These can be made in a variety of ways, all utilizing colored tagboard (bristolboard) and chipboard. The tagboard can be of any size (one popular size is 35 cm x 60 cm), with the chipboard slightly larger since the tag is mounted on the chip using rubber cement. To make the gameboard, select the size and color of tag desired and do one of the following:

   a. Using a felt pen, trace a given pattern on the tag. Mark the spaces as desired, putting on any needed directions including "Start," "Finish," "Go ahead 3," etc. Draw, paste or glue on appropriate pictures for decoration (e.g., a dragon, ghost, cartoon characters, etc.).

   b. Glue commercially prepared stickers around the board in any pattern desired. Use a felt pen to indicate directions ("Start," "Stop," etc.).

   c. Cut out pictures from children's books ("Sticker Fun" books are great), wrapping paper, etc. Paste these around gameboard in desired pattern. Use a felt pen to indicate directions ("Start," "Stop," etc.).

   Once you have drawn, colored, etc. your board exactly as you want it you are ready to attach it to the chipboard using rubber cement. If you have lamination facilities, use only a few drops of cement and immediately laminate the tag and chip together. If you do not have lamination available simply cement them together well. Then, in either case, use mystik tape around the edges to give a firm border. We find 1-1/2" (3.75 cm) tape works well.

   Note: Open-ended gameboards can also be purchased (prices approximate) from the following sources:

   a. ESP: Set of 6 gameboards (approx. 31.5 cm x 45 cm) for $5.00 per set plus $1.00 postage and handling, from: ESP, Inc., 302 Third Avenue, Chula Vista, CA 92010; or Jackson Publications, Drawer "Q", Santee, CA 92071.

   b. California Reading Association Gameboards: These are open-ended gameboards and can be used for any subject. Set of 12 gameboards (approx. 22 cm x 28 cm) for $1.75 per set. Order Set A for primary grades, Set B for middle grades, from: California Reading Association, 3400 Irvine Ave., Suite 211, Newport Beach, CA 92660.

B. Directions for Making Gameboards, Markers, Dice and Cards (Cont.)

c. Dragon Enterprises: Individual gameboards (approx. 35.5 cm x 56 cm) for $1.50 each. P. O. Box 494, Orangevale, CA 95662.

2. Markers. These can be anything...from beans or stones to small toy animals, people, cars, commercial markers, etc. Each player needs 1 marker.

3. Dice. Use small unpainted wooden cubes (1" mill-end lumber cut into cubes). Write numerals on faces with felt pen. Numerals 1-3 work best since they limit the number of spaces to be moved. Spinners. Spinners can be used instead of dice. These are also easily made or can be purchased. They can even be made right on the gameboard. Again, numerals should be limited to 1-3 or so.

4. Cards. The number of sets of cards needed will depend on your pupils. For example, if you have ten pupils who need help in basic subtraction facts you probably will need several sets of cards just on basic subtraction facts.

The sets of cards listed on the following pages cover many of the basic computation and other number skills that can be practiced mentally. Select those you wish to make, keeping in mind that it is very easy to make other similar sets by making minor changes in addends, minuends, factors, divisors, etc.

Each set of cards you make should contain approximately 25 Problem Cards made on one color of bristol board together with an Answer Card of a different color. Each Problem Card should be numbered (Card 1, Card 2, etc.) so it can be matched with the Answer Card for checking. Each set can also be coded so it can be identified with an objective. The sets on the following pages are cross-referenced with the CVCSD Computation Inventories (Levels I, II, etc.), with the Kennedy Kit skills (K.K.1, K.K.2, etc.) and with the Title IV-C Quick Drill Tests (Q.D.1, Q.D.2, etc.).

Cards can be 3" x 5", 5" x 8" or any other size you wish. It is helpful on the Answer Card to make the numerals for the card numbers in one color (e.g., black) and the answers another color (e.g., red) so pupils won't confuse card numbers with answers.

SAMPLES

color 1

$$\begin{array}{r} 6 \\ +\ 3 \\ \hline \end{array}$$

Card 1 I,K.K.1,Q.D.19

$$\begin{array}{r} 7 \\ +\ 1 \\ \hline \end{array}$$

Card 2 I,K.K.1,Q.D.19

color 1

color 2

ANSWER CARD

| | | | |
|---|---|---|---|
| 1. | 7. | 13. | 19. |
| 2. | 8. | 14. | 20. |
| 3. | 9. | 15. | 21. |
| 4. | 10. | 16. | 22. |
| 5. | 11. | 17. | 23. |
| 6. | 12. | 18. | 24. |

I,K.K.1,Q.D.19

## Directions for Making Gameboards, Dice and Cards (Cont.)

Each set of cards should be banded together with the Answer Card (of a different color) at the end of the set. Once cards are numbered they do not need to be kept in order. Sets of cards can be filed in any order or category desired. They should be readily available to pupils so that after their needs are diagnosed and instruction given, they can get the set(s) needed for practice.
Note: Although pupils should use specific sets of cards for needed practice they can select *any* gameboard they wish.

C. Directions for Playing Games. Two or more pupils can play any game (from 2-3 pupils works best) with an additional person using the Answer Card to check answers. Pupils put their markers on the Start space, shuffle the cards, turn them face down and then roll the die (or spin the spinner) to see who goes first. The first player turns over the top card. If he gets the answer right (as checked by the pupil with the Answer Card) he rolls the die or spins the spinner to see how many spaces he moves. If he gets the answer wrong he stays where he is. The next player takes his turn, following the same procedure. The game continues until one player gets to the "Finish" space.

Many variations are possible in gameboard construction, rules, etc. Popular variations include football and baseball games where players keep a written, running score of points.

D. Format for Card Sets. The following examples show how card sets can easily be modified in content and/or number. Examples can and should be prepared in horizontal as well as in vertical form. For example, one set of cards could be vertical: $\begin{array}{r} 4 \\ +\ 2 \\ \hline \end{array}$ $\begin{array}{r} 6 \\ +\ 3 \\ \hline \end{array}$

Another set of similar examples could be horizontal: 3 + 7 = ____ 5 + 4 = ____

Still another set could be mixed: $\begin{array}{r} 4 \\ +\ 5 \\ \hline \end{array}$ 3 + 3 = ______

Sets can also be made of mixed practice: a set can include both addition and subtraction, another both multiplication and division, and another all four operations: addition, subtraction, multiplication and division. Such sets should be made not only for whole numbers but also for common and decimal fractions. However, sets should be made only for computation which can be done *mentally*.

E. Code for Card Sets.

Roman Numeral: This indicates the level of the Computation Inventory on which the skill is tested. (Note: K is used for Kindergarten.)

K.K.: This indicates the number of the Kennedy Kit Card (or Skill); e.g., K.K. 29 means Kennedy Kit Card 29, Subtraction, basic facts, minuends through 9. (Note: For some card sets there is no Kennedy Kit Card.)

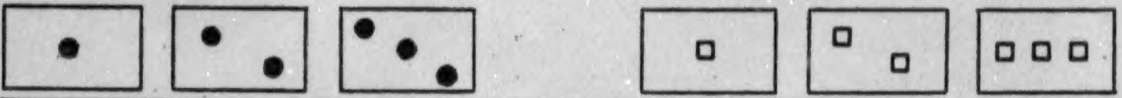
Q.D.: This indicates the number of the Quick Drill Test, e.g., Q.D. 20 means Quick Drill Test 20, Subtraction through 9. Sets of Quick Drills have also been prepared for skills which precede those in the Kennedy Kit. These have been coded with letters: Q.D.A., Q.D.B., etc., and are appropriate for use with kindergarten and first grade. Some card sets are listed for skills for which there are no Quick Drill Tests. (Note: Copies of the Quick Drill Tests are included in Section E in this guide.)

## F. Items for Card Sets, Levels K, I (Kindergarten, Grade 1)

### Set 1 (K, I), Counting 1-5: Dot Cards. Q.D.A and Q.D.C

Make from 1-5 dots on each card; vary location of dots or use other shapes, pictures, etc. on set of five cards. Make as many sets as you wish. Children count dots; Answer Card optional.

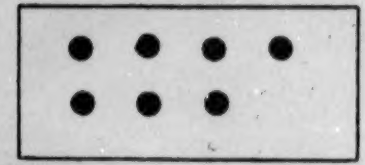
SAMPLES

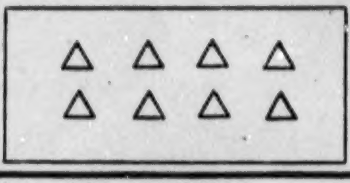


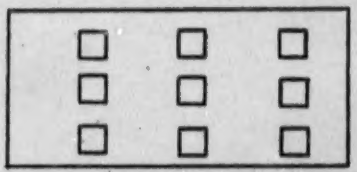
### Set 2(K, I), Counting 1-10: Dot Cards. Q.D.B and Q.D.D

Children count dots; Answer Card optional. Make from 1-10 dots on each card. Vary location of dots or use other shapes, pictures, etc., on second set of ten cards; however, be sure to place dots so they are easy for children to count. Make as many cards as you wish.

SAMPLES







### Set 3 (K, I), Counting Order, After, 1-10. Q.D.E

Children say what numeral comes next; Answer Card optional.

CARDS (Make more sets of same cards as needed to make enough for a set of 20 or so.)

1,2,3,__
7,8,9,__
5,6,7,__
2,3,4,__
6,7,8,__
4,5,6,__
3,4,5,__

### Set 4 (K, I), Counting Order, Between, 1-10 Q.D.F

Children say what numeral is missing; Answer Card optional.

CARDS (Make more of same cards as needed.)

3,__,5
1,__,3
6,__,8
2,__,4
7,__,9
5,__,7
8,__,10
4,__,6

### Set 5 (K, I), Counting Order, Before, 1-10. Q.D.G

Children say what numeral comes before; Answer Card optional.

__,2,3
__,8,9
__,5,6
__,9,10
__,3,4
__,7,8
__,4,5
__,6,7

CARDS (Make more of same cards as needed.)

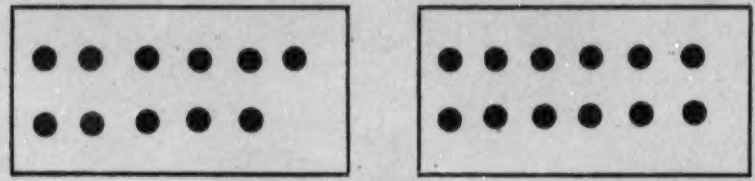
## F. Items for Card Sets, Levels K, I (Kindergarten, Grade 1 (cont.)

CARDS (Make more of same cards as needed.)

### Set 6 (K, I), Counting 11-20. Dot Cards. Q.D.H

Children count dots; Answer Card optional. Make 11-20 dots on each card; vary location of dots or use other shapes, pictures, etc. on second set of ten cards; however, be sure to place dots so they are easy for children to count. Make as many sets as you wish.

SAMPLES



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### Set 7 (K, I), Counting Order, After, 11-20. Q.D.I

Children say what numeral comes next; Answer Card optional.

CARDS (Make more of same cards as needed.)

| | | | | |
|---|---|---|---|---|
| 10, 11, ____ | 14, 15, ____ | 18, 19, ____ | 13, 14, ____ | 9, 10, ____ |
| 16, 17, ____ | 12, 13, ____ | 17, 18, ____ | 11, 12, ____ | 15, 16, ____ |

---

### Set 8 (K, I), Counting Order, Between, 11-20. Q.D.J

Children say what numeral is missing; Answer Card optional.

CARDS (Make more of same cards as needed.)

| | | | | |
|---|---|---|---|---|
| 11, ____, 13 | 14, ____, 16 | 18, ____, 20 | 13, ____, 15 | 9, ____, 11 |
| 16, ____, 18 | 12, ____, 14 | 17, ____, 19 | 10, ____, 12 | 15, ____, 17 |

## F. Items for Card Sets, Levels K, I (Kindergarten, Grade 1 (Cont.)

### Set 9 (K, I), Counting Order, Before, 11-20. Q.D.K

Children say what numeral comes before; Answer Card optional.

CARDS (Make more of same cards as needed.)

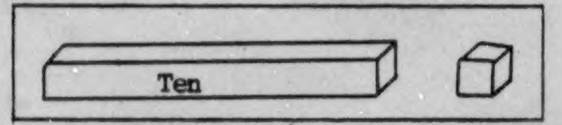
| | | | | |
|---|---|---|---|---|
| ____, 10, 11 | ____, 15, 16 | ____, 19, 20 | ____, 14, 15 | ____, 11, 12 |
| ____, 17, 18 | ____, 13, 14 | ____, 18, 19 | ____, 12, 13 | ____, 16, 17 |

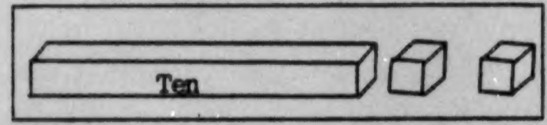
---

### Set 10 (K, I), Tens and Ones, 11-20. Q.D.L

Children say how many tens and ones; Answer Card optional. Make cards showing 1 ten and from 0-9 on each card.

CARDS (Make more of same cards as needed.)





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### Set 11 (K, I), Addition, Sums Through 5. Q.D.M

Children refer to pictures to add. Number each card and make Answer Card. Use any objects (shapes, etc.) on cards.

CARDS (Make more of same cards as needed.)

| | | | |
|---|---|---|---|
| ○ ○<br>1 + 1 = ____ | ○○ ○<br>2 + 1 = ____ | ○○○ ○<br>3 + 1 = ____ | |
| ○○<br>○○ ○<br>4 + 1 = ____ | ○○○ ○○<br>3 + 2 = ____ | ○○ ○○<br>2 + 2 = ____ | |
| ○ ○○<br>1 + 2 = ____ | ○ ○○○<br>1 + 3 = ____ | ○○<br>○ ○○<br>1 + 4 = ____ | ○○ ○○○<br>2 + 3 = ____ |

## F. Items for Card Sets, Levels K, I (Kindergarten, Grade 1 (Cont.)

### Set 12 (K, I), Subtraction, Sums Through 5. Q.D.N

Children refer to pictures to subtract. Number each card and make Answer Card. Use any objects (shapes, etc.) on cards.

CARDS (Make more of same cards as needed.)

○ ⊗
2 - 1 = ____

○ ○ ⊗
3 - 1 = ____

○ ○ ○ ⊗
4 - 1 = ____

○ ○ ○ ○ ⊗
5 - 1 = ____

⊗
1 - 1 = ____

○ ⊗ ⊗
3 - 2 = ____

○ ○ ⊗ ⊗
4 - 2 = ____

○ ○ ○ ⊗ ⊗
5 - 2 = ____

⊗ ⊗
2 - 2 = ____

⊗ ⊗ ⊗
3 - 3 = ____

⊗ ⊗ ⊗ ⊗
4 - 4 = ____

⊗ ⊗ ⊗ ⊗ ⊗
5 - 5 = ____

○ ⊗ ⊗ ⊗
4 - 3 = ____

○ ○ ⊗ ⊗ ⊗
5 - 3 = ____

○ ⊗ ⊗ ⊗ ⊗
5 - 4 = ____

---

### Set 13 (I), Addition, Sums Through 6. Q.D.O

Children refer to pictures to add. Number each card and make Answer Card. Use any objects (shapes, etc.) on cards.

CARDS (Make same 10 cards used for Set 11; then make the 5 below for a total of 15 cards. Make 2 sets of these 5 cards to provide more practice on sums of 6.

○○○
○○ ○
5 + 1 = ____

○○
○○ ○○
4 + 2 = ____

○○ ○○
○ ○
3 + 3 = ____

○○
○○ ○○
2 + 4 = ____

○○○
○ ○○
1 + 5 = ____

## F. Items for Card Sets, Levels K, I (Kindergarten, Grade 1 (Cont.)

### Set 14 (I), Subtraction, Sums Through 6. Q.D.P

Children refer to pictures to add. Number each card and make Answer Card. Use any objects (shapes, etc.) on cards.

CARDS (make same 15 cards used for Set 12; then make the 6 below for a total of 21 cards. Make 2 sets of these 6 cards to provide more practice subtracting from 6.

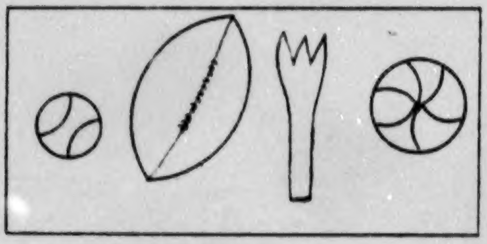
| | | |
|---|---|---|
| ○ ○ ○ ○ ○ ⊗<br>6 - 1 = ______ | ○ ○ ○ ○ ⊗ ⊗<br>6 - 2 = ______ | ○ ○ ○ ⊗ ⊗ ⊗<br>6 - 3 = ______ |
| ○ ○ ⊗ ⊗ ⊗ ⊗<br>6 - 4 = ______ | ○ ⊗ ⊗ ⊗ ⊗ ⊗<br>6 - 5 = ______ | ⊗ ⊗ ⊗ ⊗ ⊗ ⊗<br>6 - 6 = ______ |

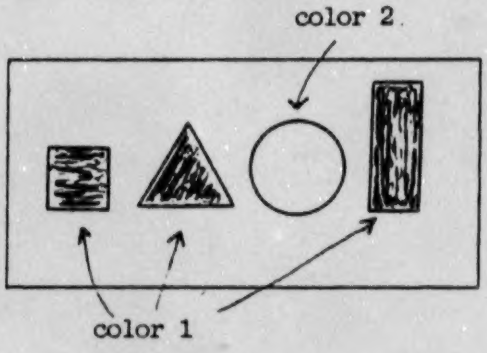
Note: The following sets of cards provide practice on such concepts as logical thinking, measurement, geometry, time, and money. There are no Quick Drill tests for them. They are tested on either the Kindergarten or Level I and II Inventories.

### Set 15 (K, I), Likenesses, Differences

Children say which object does not belong with the others on each card; no Answer Card needed. Make as many cards as desired, each showing 3 things that are alike and 1 that is different. (Note: It is helpful to cut pictures out of old books, use stickers, etc.)

SAMPLES





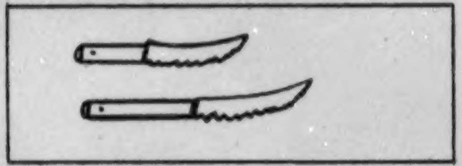
etc.

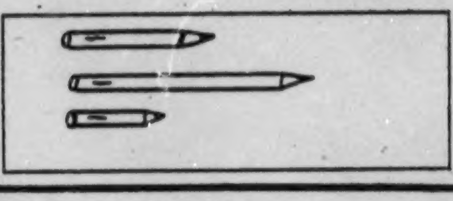
## F. Items for Card Sets, Levels K, I (Kindergarten, Grade 1 (Cont.)

### Set 16 (K, I), Longer, Longest, (Shorter, Shortest)

Children say which of 2 objects is longer (e. g., "bottom knife") or shorter, or which of 3 objects is longest or shortest; Answer Card optional. Make as many cards as desired.

SAMPLES





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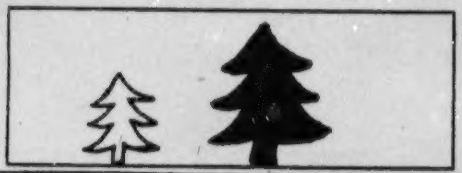
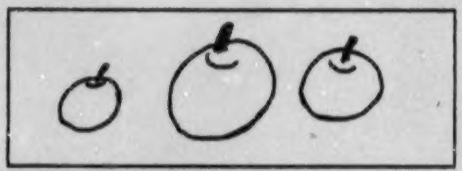
### Set 17 (K, I), Larger, Largest (Smaller, Smallest)

Children say which of 2 objects is larger (e.g., "green tree") or smaller, or which of 3 objects is largest or smallest; Answer Card optional. Make as many cards as desired.

SAMPLES





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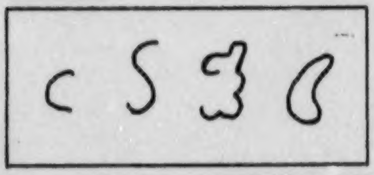
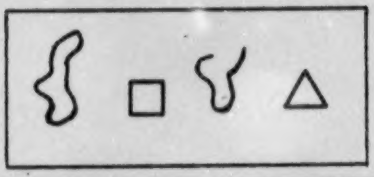
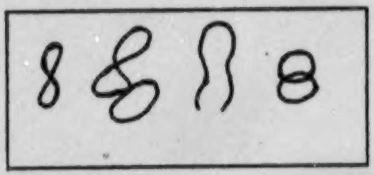
### Set 18 (K, I), Open and Closed Figures

Children say which shape (1, 2, 3 or 4) does not belong with the others on each card; Answer Card optional. Make as many cards as desired, each showing 3 figures that are either all open or all closed and 1 figure that is the opposite.

SAMPLES







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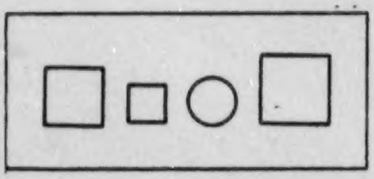
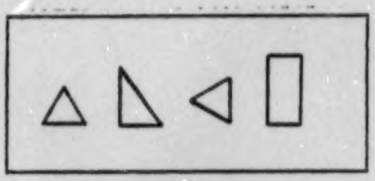
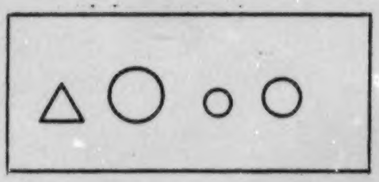
### Set 19 (K, I), Basic Geometric Shapes

Children say which shape (1, 2, 3 or 4) does not belong with the others on each card; Answer Card optional. Make as many cards as desired each showing 3 shapes that are alike and 1 that is different.

SAMPLES





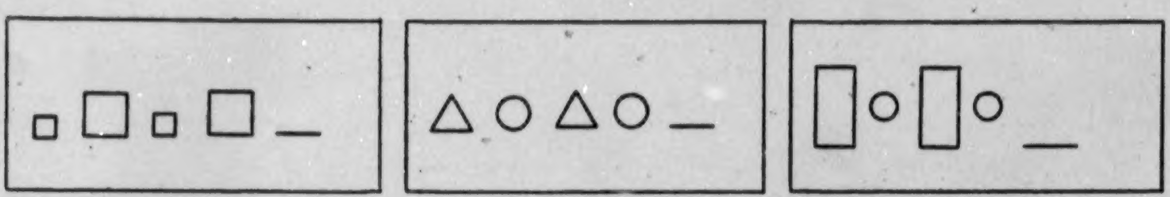


## F Items for Card Sets, Levels K, I (Kindergarten, Grade 1 (Cont.)

### Set 20 (K, I), Patterns, (Size and Shape)

Children say which size and shape comes next (e.g., "small square"). Answer Card is optional but if used should show shapes rather than words. Make as many cards as desired each showing 2 shapes in an alternating pattern for a total of 4 shapes. Leave space or draw line for shape that comes next.

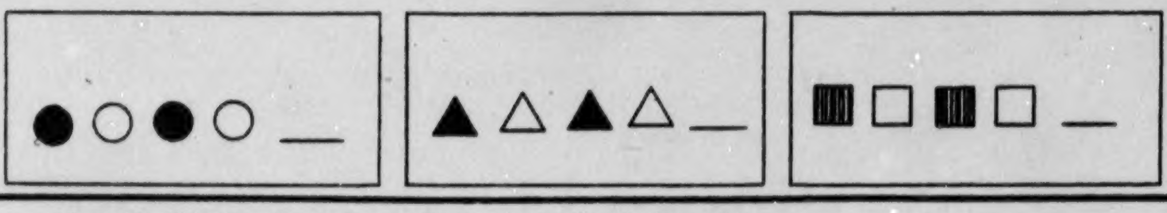
SAMPLES



### Set 21 (K, I), Patterns, (Color and Shape)

Children say which color and shape comes next (e.g., "black circle"). Answer Card is optional but if used should show colored shape rather than words. Make as many cards as desired, each showing 2 shapes colored alternately in a total of 4 shapes. Leave space or draw line for shape that comes next.

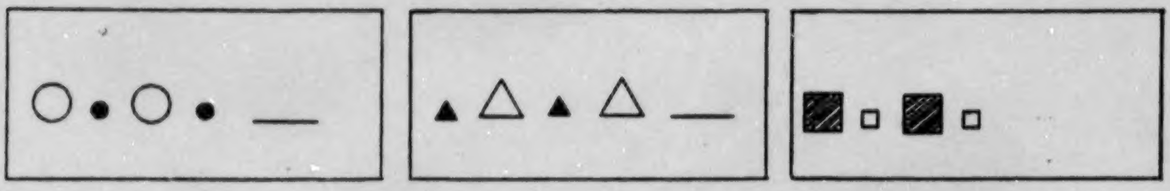
SAMPLES



### Set 22 (K, I), Patterns (Size, Color and Shape)

Children say which size, shape and color comes next (e.g., "large white circle"). Answer Card is optional but if used should show colored shape rather than words. Make as many cards as desired, each showing 2 shapes alternating in size and color for a total of 4 shapes. Leave space or draw line for shape that comes next.

SAMPLES

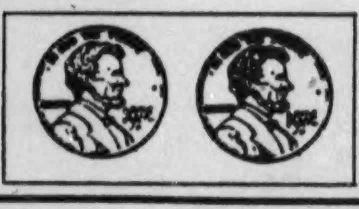


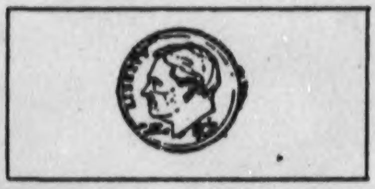
## F. Items for Card Sets, Levels K, I (Kindergarten, Grade 1 (Cont.)

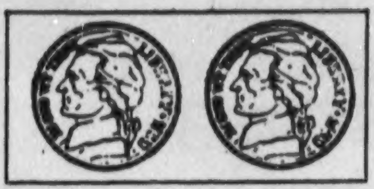
### Set 23 (K, I), Money

Children say how much money is shown (e.g., "2 cents"); Answer Card optional. Make as many cards as desired. Use coin stamps.

SAMPLES







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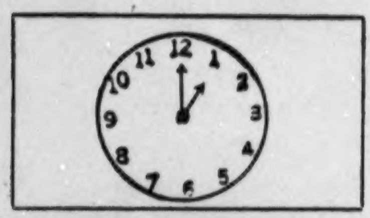
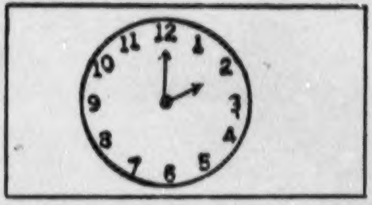
### Set 24 (I), Time on the Hour.

Children give the time on the hour; Answer Card optional. Make 12 cards, each showing the time on the hour from 1-12. Use clock stamps. (Make additional sets of 12 cards as needed.)

SAMPLES





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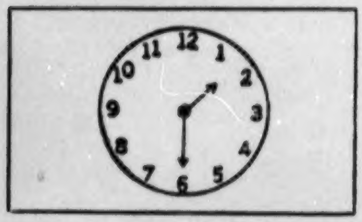
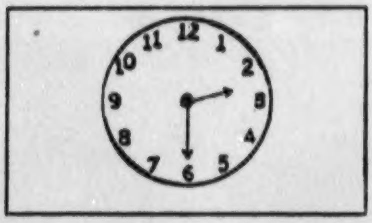
### Set 25 (I, II), Time on the Half Hour.

Children give the time on the half hour; Answer Card optional. Make 12 cards, each showing the time on the half hour from one-thirty through twelve-thirty. Use clock stamps. (Make an additional set of 12 cards as needed.)

SAMPLES





## G. Items for Card sets, Level I (Grade 1)

### Set 1. Addition, Sums 0-5, Vertical Form — Q.D. 1

CARDS (21)

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 2 | 1 | 2 | 3 | 1 | 4 | 2 | 4 | 0 | |
| +3 | +1 | +4 | +0 | +2 | +2 | +0 | +3 | +1 | +2 | |
| 5 | 0 | 2 | 1 | 0 | 1 | 3 | 0 | 1 | 3 | 0 |
| +0 | +0 | +2 | +3 | +1 | +1 | +0 | +4 | +0 | +1 | +5 |

### Set 2. Addition, Sums 0-5, Horizontal Form (Same facts as Set 1)

### Set 3. Subtraction, Sums 0-5, Vertical Form — Q.D. 3,4

CARDS (21)

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 2 | 5 | 4 | 2 | 3 | 5 | 2 | 0 | 5 | |
| -1 | -2 | -0 | -1 | -1 | -3 | -4 | -0 | -0 | -2 | |
| 3 | 4 | 1 | 3 | 4 | 5 | 4 | 2 | 1 | 4 | 5 |
| -2 | -2 | -1 | -0 | -3 | -5 | -0 | -2 | -0 | -4 | -3 |

### Set 4. Subtraction, Sums 0-5, Horizontal Form (Same facts as Set 3) — Q.D. 6

### Set 5. Mixed Addition and Subtraction, Sums 0-5, Vertical Form — Q.D. 5

CARDS (21)

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 4 | 3 | 5 | 4 | 5 | 4 | 2 | 2 | |
| +1 | -1 | +0 | -3 | -0 | -2 | -1 | -3 | +3 | +2 | |
| 5 | 3 | 4 | 1 | 0 | 3 | 4 | 1 | 5 | 1 | 0 |
| -4 | +0 | +1 | -1 | +0 | +1 | -0 | +2 | -3 | -0 | +2 |

### Set 6. Mixed Addition and Subtraction, Sums 0-5, Vertical Form — Q.D. 5

CARDS (21)

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 0 | 2 | 3 | 5 | 4 | 4 | 0 | 1 | 1 | |
| +2 | -0 | +1 | +1 | -1 | +0 | -4 | +0 | +5 | +3 | |
| 2 | 3 | 5 | 0 | 3 | 1 | 2 | 4 | 1 | 5 | 0 |
| -2 | -0 | -5 | +4 | -2 | +4 | -0 | -1 | +0 | -2 | +3 |

Items for Card Sets, Level I (Grade 1) (Cont.)

## Set 7. Addition, Sums 0-5, Second Addend Missing

Q.D. 7

CARDS (21)

2 + ____ = 4
0 + ____ = 5
0 + ____ = 1
1 + ____ = 3
0 + ____ = 3
1 + ____ = 5
3 + ____ = 3
1 + ____ = 4
4 + ____ = 4
0 + ____ = 2
2 + ____ = 3
4 + ____ = 5
2 + ____ = 5
5 + ____ = 5
2 + ____ = 2
0 + ____ = 0
1 + ____ = 2
3 + ____ = 4
3 + ____ = 5
0 + ____ = 4
1 + ____ = 1

---

## Set 8. Addition, Sums 0-5, First Addend Missing

Q.D. 8

CARDS (21)

____ + 4 = 5
____ + 3 = 3
____ + 2 = 3
____ + 5 = 5
____ + 2 = 4
____ + 0 = 3
____ + 3 = 4
____ + 0 = 4
____ + 2 = 2
____ + 1 = 3
____ + 1 = 5
____ + 3 = 5
____ + 0 = 5
____ + 0 = 2
____ + 0 = 0
____ + 1 = 2
____ + 1 = 4
____ + 2 = 5
____ + 4 = 4
____ + 0 = 1

---

## Set 9. Subtraction, Sums 0-5, First Addend Missing

Q.D. 9

CARDS (21)

5 - ____ = 5
3 - ____ = 2
2 - ____ = 0
4 - ____ = 3
2 - ____ = 1
5 - ____ = 2
3 - ____ = 0
5 - ____ = 1
2 - ____ = 2
0 - ____ = 0
5 - ____ = 3
3 - ____ = 1
4 - ____ = 2
1 - ____ = 0
3 - ____ = 3
4 - ____ = 1
5 - ____ = 0
4 - ____ = 4
2 - ____ = 0
1 - ____ = 1
4 - ____ = 0

---

## Set 10. Column Addition, Sums < 10

Q.D. 10

SAMPLES (Make as many cards as you wish.)

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 3 | 1 | 2 | 4 | 1 | 4 | 5 | 0 | 3 | 2 |
| 5 | 4 | 5 | 2 | 3 | 2 | 0 | 3 | 1 | 3 | 3 |
| +1 | +1 | +1 | +2 | +2 | +3 | +4 | +1 | +2 | +3 | +2 |

## H. Items for Card Sets, Levels I - VII (Grades 1 - 7)

Sets 1 - 10 above give an idea as to how Card Sets can be made. Many similar sets can be made with other addition and subtraction facts as well as multiplication and division facts. The following sheets list the basic facts in a variety of groupings. Please use them to construct Card Sets as needed. Remember that examples can be written in both horizontal and vertical form. Some appropriate sets would be:

Addition, sums 0 - 6
Subtraction, sums 0 - 6
Addition, sums 0 - 7, and so on through sums of 18
Subtraction, sums 0 - 7, and so on through sums of 18
Multiplication, 2's and 3's
Multiplication, 0's and 1's
Multiplication, 5's
Multiplication, products through 25
Multiplication, 6's and 7's
Multiplication, 8's and 9's
Multiplication, products through 81
Division, 1's and 2's
Division, 3's and 4's
Division, 5's
Division, dividends through 25
Division, 6's and 7's
Division, 8's and 9's
Division, dividends through 81
Mixed addition and subtraction, sums 0 - 12
Mixed addition and subtraction, sums 0 - 18
Mixed multiplication and division, horizontal form, dividends through 25
Mixed multiplication and division, horizontal form, dividends through 81
Mixed addition, subtraction, multiplication and division
Number sentences using relations symbols (=, < , > ) (e.g., 5 ⧀ 4 + 2),

3 x 6 ⊜ 9 x 2,  38 ⧁ 37,  34, 502 ⧀ 34, 520

Cards can also be made to show sequences (2, 4, ______, 8), division with remainder where pupil simply answers yes if remainder (22 ÷ 3...answer is yes), addition or subtraction requiring regrouping where pupil answers yes if regrouping is required and no if it is not but doesn't actually do the example: prime and composite numbers, greatest common factors, least common multiples, common and decimal fractions, and in the other mathematical strands (geometry, measurement, probability, statistics, problem solving, functions, logic). We are limited only by our imagination and TIME!

# LEARNING CENTERS

Learning centers are areas in the classroom which contain materials and suggestions for their use designed to reinforce and/or enrich skills or concepts in any subject and in this case mathematics. Learning centers should never be used to introduce new skills.

To be effective, learning centers should be an integral part of the curriculum and used as part of the regular math program. The subject matter of the centers should be determined by the needs diagnosed by the Chula Vista City School District mathematics inventories or other similar inventories and the interests of individual students and the class.

Learning centers may be very general or very specific. For example, a center of general content might ask students to find models of geometric shapes and forms using magazines, newspapers, etc. A center of specific content might ask students to do activities in 2-digit subtraction with regrouping. Usually, centers of general content are used to arouse curiosity, stimulate interest, or give students exposure to certain areas of math. These should be available to all students in a class. However, centers concerning a specific skill would probably be limited to those students who need to practice that skill.

Learning centers may be very useful to both teachers and students. Centers that operate independently of the teacher do the following:

1. Allow the teacher time to work with a group of students while others are involved at the center(s).
2. Provide students with an alternative to "seatwork."
3. Help the teacher individualize by assigning a student or a small group with like needs to a center.

## Steps to Follow in Setting Up a Learning Center

1. Select areas of need or interest of students.
2. Determine objective(s) to be accomplished; e.g., students will practice telling time to the half hour.
3. Decide type of activity(-ies) to accomplish the objective(s): manipulating (cutting, pasting, matching), listening (records, tape recorder), viewing (filmstrips, film loops, pictures), etc.

4. Decide procedure for accomplishing the activities. Write simple directions for the centers; explain and review them as needed.
5. Gather materials and arrange so students can work independently.
6. Establish a means of evaluation. Activities should be self-correcting if possible. If activities are open-ended, provide a way for students to share their experiences.

## Helpful Hints to Make Centers Successful

1. Make them attractive, a place where students want to go.
2. Provide a variety of activities, not necessarily to be done all at one time.
3. Spend time giving directions; the younger the students are the simpler directions should be.
4. Establish rules for using the centers.
5. Specify the number of students at each center and where they should work.
6. Provide a place for finished and unfinished work.
7. Assign students the responsibility of keeping the centers in order.
8. Revive or replace the centers when students begin to lose interest. Don't change all the centers at once as this provides too much stimulation in a classroom.
9. Continually evaluate the centers asking such questions as:
   Are the objectives being accomplished?
   Are students too noisy?
   Are activities too easy or too difficult?

## Suggestions for Making a Backboard for a Learning Center

To make a backboard for a learning center, cut a piece of 22" x 28" tagboard in half so there are two pieces 14" x 22" (Diagram I). Trace and/or draw and color a picture on one piece. Leave the other piece blank. Mount each piece of tagboard on a piece of chipboard that is the same size. Laminate the pieces or cover them with clear contact paper (Diagram II). Using 3/4" clear tape, cover all four edges of each part.

Using colored plastic library tape or masking tape, hinge the two pieces together along the 22" side. (In most cases the picture should be to the left of the blank side.) Be sure to allow enough room along the hinge so the sides will lie flat when folded (Diagram III). To make backboards of different dimensions add a third section as pictured in Diagrams IV and V.

Sample pictures for learning centers are on pages D-4 to D-6. These may be enlarged using an opaque projector; they can then be traced on tagboard. Children's coloring books, illustrations in children's books and posters all provide other excellent sources of pictures for centers.

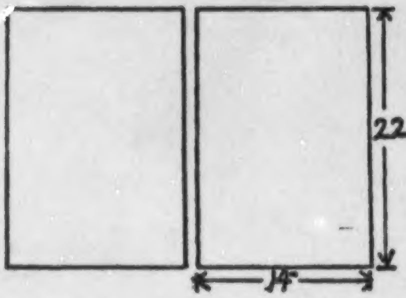


Diagram I

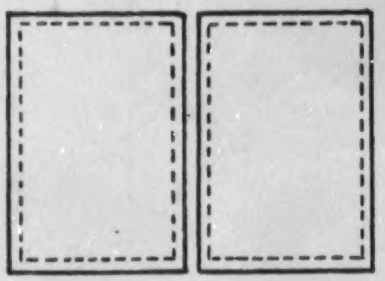


Diagram II
(Laminate)

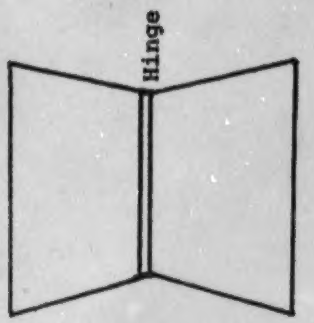


Diagram III

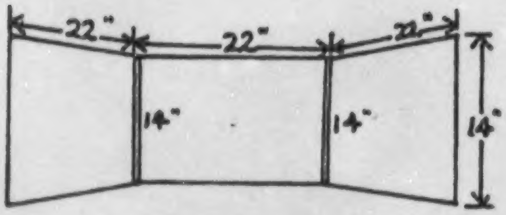


Diagram IV

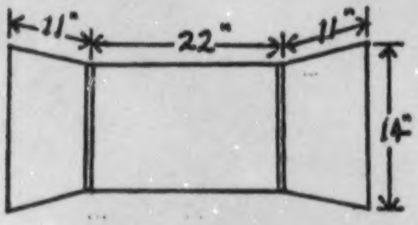
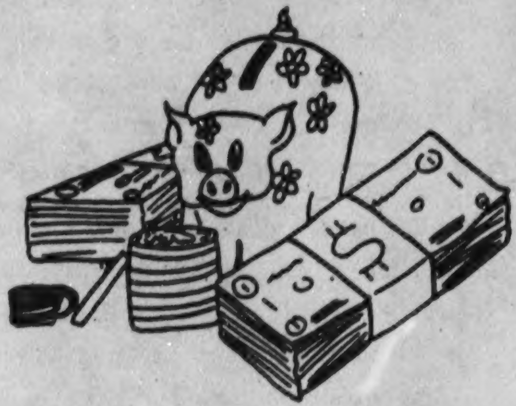


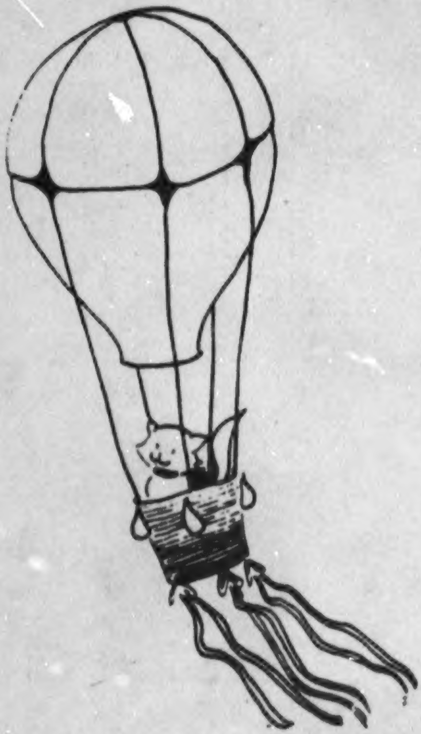
Diagram V

# EXAMPLES FOR LEARNING CENTERS

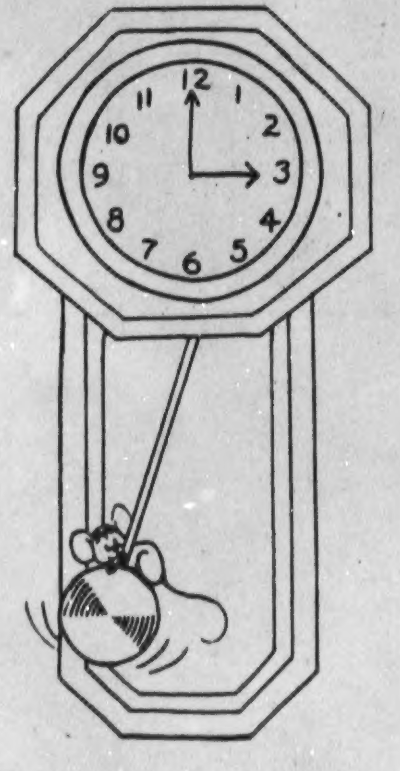
Have you heard about...



Money makes sense.
Learn about...

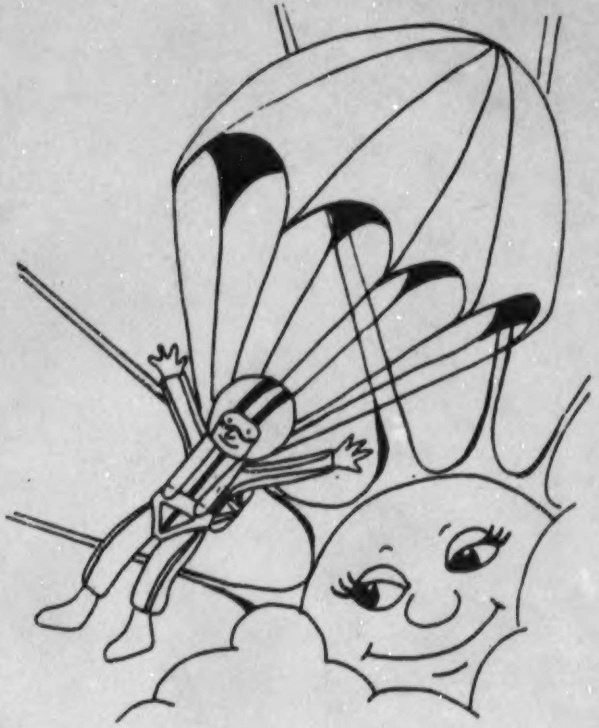


Look for...

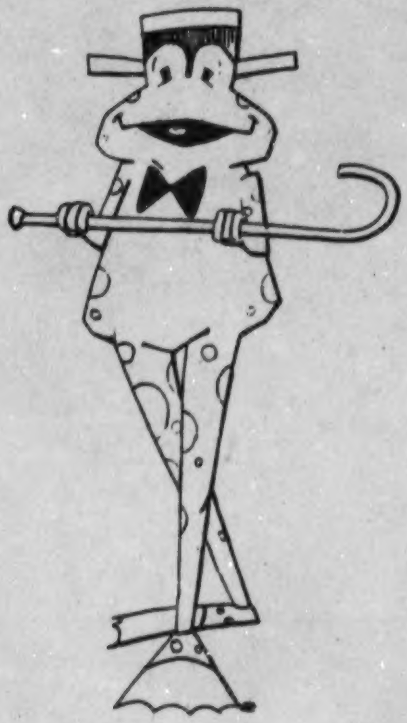


It's time to learn about...

## EXAMPLES FOR LEARNING CENTERS



Jump into...



Step into...

Measure up with...

Reach for the top with...

## EXAMPLES OF HOLIDAY LEARNING CENTERS

### VALENTINE'S DAY

You'll love learning about...

### EASTER

Enjoy looking for...

### HALLOWEEN

Don't be frightened about...

### CHRISTMAS

Be merry about...

# CHULA VISTA PRESCRIPTIVE MATHEMATICS PROGRAM

## QUICK DRILL PROGRAM - OVERVIEW

### INTRODUCTION

The Quick Drills are a series of short, timed tests developed in sequence according to level of difficulty. They are designed to give pupils daily practice and improve speed in computation while at the same time provide a system of maintaining skills previously learned.

The Quick Drill Section in this book is composed of the Overview, Description List and Diagram, Class Records and reduced copies of the drills themselves.

The Quick Drill Description List on pages E 6 - 23 list the 256 drills in sequence including a brief description, the placement level, the Kennedy Kit references, and a sample item from each drill.

The Quick Drill Diagram on page E 24 shows the actual size of the Quick Drills and explains the information provided on each drill sheet.

The Quick Drill Class Records are provided on pages E 25 - 37. The record for K-1 Level is complete on one page. The records for each of the levels 1-6 are complete on two pages, Part 1 and Part 2. For example, Part 1, Level I Class Record gives a sample item of the first 20 drills (Drills 1-20) and Part 2, Level I Class Record gives a sample item of the second 20 drills (Drills 21-40). Suggestions for recordkeeping are on page E 4.

Reduced copies of the 256 quick drills are provided on pages E 38 - 69.

### DESCRIPTION

The Quick Drills were written to correlate with the skills taught in the basic State-adopted textbooks and with the skills tested on the Chula Vista City School District Mathematics Inventories and standardized achievement tests. Not all of these sources agree on grade level designations of the skills so grade level placement of certain skills in the Quick Drill Program is only approximate.

Most of the drills emphasize practice in whole numbers, common and decimal fractions in the four basic computation operations (addition, subtraction, multiplication and division). However, there are several drills that pertain to concepts and applications; i.e., Drill 149 deals with standard numerals, Drill 180 with Roman numerals and Drill 192 with simplifying fractions. Items on the drills are written in horizontal and vertical forms so that students

## DESCRIPTION (Cont.)

will have practice using both forms. Review drills are included so that students maintain skills that have already been mastered.

## ORGANIZATION

The Quick Drills consist of 256 short drills divided into seven levels of achievement; K-1, 1, 2, 3, 4, 5, and 6.

The first 16 drills, Level K-1 (A-P) are written in sequence A through P and designed to give practice to students working at a K-1 level. Levels 1 through 6 have 40 drills per level and are designed to give practice to students working at the corresponding grade levels. For example, Level 1 begins with Skill 1, ends with Skill 40, and provides daily drill for students working at a first grade level in math. Level 6 begins with Skill 201, ends with Skill 240 and provides daily drill for students working at a sixth grade level in math.

## DIRECTIONS AND SUGGESTIONS FOR USE

Adopting or Adapting the Program. The Quick Drill Program may be adopted in its entirety or in part by a school, a group of teachers or one teacher. To establish the program in a school the drills should be typed and stored in a place that is accessible to everyone using them. Rosebank School stores their drills in the library; Valley Vista School uses a special classroom. In both cases, someone is responsible for inventorying them and preparing additional copies as needed.

The drills as printed on pages E 38 - 69 were reduced to conserve space in this guide. Each drill is actually 4¼" x 11" (2 drills per standard 8½" x 11" sheet of paper).

Administering the Quick Drills. Each drill session takes about ten minutes of class time. This includes passing out the drills, taking and collecting them. Project teachers allow students three minutes to take the drills. However, the amount of time is optional and may be adjusted to meet the needs of individual students or classes.

Answers are printed on the right hand side of each drill sheet and are easily folded out of sight when students are taking the timed tests. Students check their own answers. This speeds up the correcting process and gives students immediate feedback regarding their degree of success on the drills. It is very helpful for the drills to be self-correcting since students in the same class are often taking a wide variety of drills at the same time.

## DIRECTIONS AND SUGGESTIONS FOR USE (Cont.)

Placement and Pacing of Students. Placement in the Quick Drill Program is determined by the instructional level of each student. This is found by using the CVCSD Mathematics Inventories in Computation, i.e., a student working at instructional Level II (passed Level I, but didn't pass Level II Computation Inventory) would be placed at the beginning of Level 2 in the Quick Drill Program. Most Project teachers using the program place their students at the beginning of a level, but it is possible to place a student at any drill in the continuum as long as it is appropriate for the student.

Every student works at his/her instructional level and pace. The pacing varies according to the rate at which each student achieves mastery on each drill. A score of 100 percent correct on each drill is required before a student progresses to the next drill.

It is suggested that teachers use their own judgment in following the Quick Drill continuum adapting it to meet the needs of their pupils. For example, a teacher of a first grade class could choose to skip Drill 8 ( ☐ + 3 = 5) in Level I of the program since this skill is not tested on Level I Computation and is covered at Grade 2 in the Kennedy Kit and in some of the State textbooks. On the other hand this same teacher could expose first grade students to the skill since it is tested at the Primary I level of the Stanford Achievement Test.

Some Project teachers use the Quick Drill Program three times a week instead of daily. The number of times the drills are given in a week is flexible. Teachers should adapt the use of the drills to best fit their math programs. It is suggested that whenever the drills are given the same routine be followed.

Classroom Management. After placing students in the program teachers must establish a management system to include the following.

1. Getting the drills from the storage site to the classroom.
2. Distributing the correct drills to each student.
3. Setting a time limit for giving the drills.
4. Monitoring each drill session.
5. Collecting the drills from students achieving mastery each drill session.
6. Recording student mastery of the drills.
7. Checking records and evaluating student progress.

Classroom Management (Cont.)

The Project teachers who have used the program in their classrooms find that involving students in the management of the program is very helpful. Generally, teachers are responsible for steps 3, 4, and 7 of the list on the preceding page and students perform the other tasks. Since some of these tasks are difficult for younger children to do, primary teachers may use students from upper grade classes to help manage their program.

Student helpers may be responsible for gathering drills, writing students' names on them, folding the answer part out of sight, distributing and collecting drills, and recording mastery for those achieving it that day. Students who pass get the next drill in the sequence and students who do not pass (did not finish the drill or did not get all items correct) do the same drill again on the next day.

Recordkeeping. Regardless of whether a student helper or the teacher does the recording, student progress must be recorded after each drill session. There are usually records of two or three levels in a class. Student names are listed on the record sheets appropriate to their level.

Each record is a grid which lists a sample item of each drill across the top of the form and provides spaces for student names down the left side. Project teachers record student progress in the drills by filling in the space under each sample as students master the drills. Progress is charted in the form of horizontal bar graphs similar to the way progress is charted on the Class Records of Growth used with CVCSD Mathematics Inventories. Project Teachers also tally the number of times a pupil takes a drill before mastering it. By tallying the teacher knows which students need help.

## EVALUATION

Besides administering the drill sessions teachers need to check the Quick Drill records on a regular basis and evaluate each student's progress. The pacing of students may be slow, average or fast depending upon individual differences. The important factor to consider in evaluation is that all students keep moving (progressing from one drill to the next) regardless of the pace. If a student isn't moving a teacher needs to ask these questions:

EVALUATION (Cont.)

1. Is the student at the right placement level?
2. Does the student need to be taught the skill?
3. Does the student need additional practice in the skill?
4. Does the student know how to do the skill, but need more time?

After the reason for a student's lack of progress is determined many things can be done. If the wrong placement is thought to be the problem a student can be moved to easier drills in the same level or to drills at a lower level so that the student will experience success. This may be the only motivation needed and when the stumbling point is reached again the student may be able to pass it.

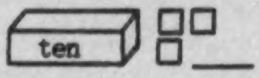
If the student doesn't know how to do a particular skill then the teacher or an aide should explain the skill and watch how a student performs while doing the skill. The student may be making a systematic error that needs to be pointed out and corrected or may need additional practice in the skill. Students may take the drills home to study or may be referred to the Kennedy Kit or textbooks for practice. The Kennedy Kit card numbers are listed at the top of each drill and the textbook page references for the Kennedy Kit skills are listed in this book on pages F 1 - 45. If the skill is not covered by the Kennedy Kit then the textbook index may be used to find page references.

If a student knows how to do the skill and seems to be at the proper placement level then a possible solution to the student's lack of progress is to allow more time to finish the drills.

E-6

## CHULA VISTA PRESCRIPTIVE MATHEMATICS PROGRAM

## QUICK DRILL DESCRIPTION LIST

| Skill | Description of Skill | Level | Kennedy Kit No. | Example |
|---|---|---|---|---|
| A | Count and match sets with numerals (1-5) | K-1 | * | ○ ○<br>1 2 3 |
| B | Count and match sets with numerals (1-10) | K-1 | * | □□□□□□<br>4 5 6 |
| C | Count objects and write numerals (1-5) | K-1 | * | ○○ ___ |
| D | Count objects and write numerals (1-10) | K-1 | * | ○○○<br>○○○ ___ |
| E | Write order of numerals (after) (1-10) | K-1 | * | 1, 2, ___ |
| F | Write order of numerals (between) (1-10) | K-1 | * | 4, ___, 6 |
| G | Write order of numerals (before) (1-10) | K-1 | * | ___, 5, 6 |
| H | Count objects and write numerals (11-20) | K-1 | * | ○○○○○○<br>○○○○○ ___ |
| I | Write order of numerals (after) (11-20) | K-1 | * | 10, 11, ___ |
| J | Write order of numerals (between) (11-20) | K-1 | * | 10, ___, 12 |
| K | Write order of numerals (before) (11-20) | K-1 | * | ___, 16, 17 |
| L | Count and write tens and ones | K-1 | * |  |
| M | Add., basic facts through 5 | K-1 | * | ○○ ○○○<br>2 + 3 = ___ |
| N | Subt., basic facts, minuends through 5 | K-1 | * | ○○○⊗⊗<br>5 - 2 = ___ |
| O | Add., basic facts, minuends through 6 | K-1 | * | ○ ○○○○○<br>1 + 5 = ___ |
| P | Subt., basic facts, minuends through 6 | K-1 | * | ○○○⊗⊗⊗<br>6 - 3 = ___ |

*No Kennedy Kit Card Reference.

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| [illegible] | Description of Skill | Level | Kennedy Kit No. | Horiz. or Vert. Form | Example |
|---|---|---|---|---|---|
| 1 | Add., basic facts through 5 | 1 | * | V | 3<br>+ 2 |
| 2 | Add., basic facts through 5 | 1 | * | H | 3 + 2 = □ |
| 3 | Subt., basic facts, minuends through 5 | 1 | * | V | 5<br>- 1 |
| 4 | Subt., basic facts, minuends through 5 | 1 | * | V | 5<br>- 4 |
| 5 | Mixed add. and subt., basic facts through 5 | 1 | * | V | Review |
| 6 | Subt., basic facts, minuends through 5 | 1 | * | H | 5 - 4 = □ |
| 7 | Add., basic facts through 5, second addend missing | 1 | * | H | 2 + □ = 5 |
| 8 | Add., basic facts through 5, first addend missing | 1 | * | H | □ + 3 = 5 |
| 9 | Subt., basic facts through 5, first addend missing | 1 | * | H | 5 - □ = 2 |
| 10 | Subt., basic facts through 5, sum missing | 1 | * | H | □ - 3 = 2 |
| 11 | Add., column, 1-digit addends, sums less than 10 | 1 | 6 | V | 1<br>5<br>+ 2 |
| 12 | Add., basic facts through 6 | 1 | * | V | 4<br>+ 2 |
| 13 | Subt., basic facts, minuends through 6 | 1 | * | V | 6<br>- 5 |
| 14 | Mixed subt. and add., basic facts through 6 | 1 | * | V | Review |
| 15 | Add., basic facts through 7 | 1 | * | H | 4 + 3 = □ |

* No Kennedy Kit Card Reference

| E-8 Skill Numbers | Description of Skill | Level | Kennedy Kit No. | Horiz. or Vert. Form | Example |
|---|---|---|---|---|---|
| 16 | Subt., basic facts, minuends through 7 | 1 | * | H | 7 - 6 = ☐ |
| 17 | Add., basic facts through 8 | 1 | * | V | 5<br>+ 3 |
| 18 | Subt., basic facts, minuends through 8 | 1 | * | V | 8<br>- 7 |
| 19 | Add., basic facts through 9 | 1 | 1 | V | 4<br>+ 5 |
| 20 | Subt., basic facts, minuends through 9 | 1 | 29 | V | 9<br>- 8 |
| 21 | Mixed subt. and add., basic facts through 9 | 1 | * | V | Review |
| 22 | Add., basic facts through 10 | 1 | 2 | V | 9<br>+ 1 |
| 23 | Subt., basic facts, minuends through 10 | 1 | 30 | V | 10<br>- 9 |
| 24 | Add., basic facts through 10 | 1 | * | H | 1 + 9 = ☐ |
| 25 | Subt., basic facts, minuends through 10 | 1 | * | H | 10 - 9 = ☐ |
| 26 | Add., basic facts through 11 | 1 | 3 | V | 9<br>+ 2 |
| 27 | Subt., basic facts, minuends through 11 | 1 | 31 | V | 11<br>- 9 |
| 28 | Add., basic facts through 12 | 1 | 4 | V | 3<br>+ 9 |
| 29 | Subt., basic facts, minuends through 12 | 1 | 32 | V | 12<br>- 9 |
| 30 | Mixed add., and subt., basic facts through 12 | 1 | * | H | Review |

* No Kennedy Kit Card Reference

| Skill Numbers | Description of Skill | Level | Kennedy Kit No. | Horiz. or Vert. Form | Example |
|---|---|---|---|---|---|
| 31 | Add., basic facts through 12, second addend missing | 1 | 112 | H | 7 + ☐ = 12 |
| 32 | Add., basic facts through 12, first addend missing | 1 | 113 | H | ☐ + 7 = 12 |
| 33 | Subt., basic facts, minuends through 12, first addend missing | 1 | 119 | H | 12 - ☐ = 5 |
| 34 | Subt., basic facts, minuends through 12, sum missing | 1 | 120 | H | ☐ - 7 = 5 |
| 35 | Add., 2-digit addends, multiples of 10 | 1 | 8 | H | 20 + 40 = ☐ |
| 36 | Add., 2-digit and 1-digit, no renaming | 1 | * | H | 11 + 7 = ☐ |
| 37 | Add., 1-digit and 2-digit addends, no renaming | 1 | 7 | V | 38<br>+ 1 |
| 38 | Subt., 1-digit from 2-digit, no renaming | 1 | 34 | V | 86<br>- 5 |
| 39 | Add., 2-digit addends, no renaming | 1 | * | V | 51<br>+ 23 |
| 40 | Subt., 2-digit from 2-digit, no renaming | 1 | 35 | V | 87<br>- 53 |
| 41 | Add., basic facts through 13 | 2 | * | H | 9 + 4 = ☐ |
| 42 | Subt., basic facts, minuends through 13 | 2 | * | H | 13 - 4 = ☐ |
| 43 | Mixed add. and subt., basic facts through 13 | 2 | * | H | Review |
| 44 | Add., basic facts through 15 | 2 | * | H | 9 + 6 = ☐ |
| 45 | Subt., basic facts, minuends through 15 | 2 | * | H | 15 - 9 = ☐ |
| 46 | Add., basic facts through 15 | 2 | * | V | 9<br>+ 6 |

* No Kennedy Kit Card Reference.

| E-10 Skill Numbers | Description of Skill | Level | Kennedy Kit No. | Horiz. or Vert. Form | Example |
|---|---|---|---|---|---|
| 47 | Subt., basic facts, minuends through 15 | 2 | * | V | 15<br>- 9 |
| 48 | Mixed add. and subt., basic facts through 15 | 2 | * | V | Review |
| 49 | Add., basic facts through 18 | 2 | 114 | H | 9 + 9 = □ |
| 50 | Subt., basic facts, minuends through 18 | 2 | 121 | H | 18 - 9 = □ |
| 51 | Mixed add. and subt., basic facts through 18 | 2 | 114<br>121 | H | Review |
| 52 | Add., basic facts through 18 | 2 | 5 | V | 9<br>+ 9 |
| 53 | Subt., basic facts, minuends through 18 | 2 | 33 | V | 18<br>- 9 |
| 54 | Add., basic facts, through 18, second addend missing | 2 | 112 | H | 9 + □ = 18 |
| 55 | Add., basic facts through 18, first addend missing | 2 | 113 | H | □ + 9 = 18 |
| 56 | Subt., basic facts, minuends through 18, first addend missing | 2 | 119 | H | 18 - □ = 9 |
| 57 | Subt., basic facts, minuends through 18, sum missing | 2 | 120 | H | □ - 9 = 9 |
| 58 | Add., column, 1-digit addends, sums greater than 10 | 2 | 6 | V | Review |
| 59 | Add., column, 2-digit addends, no renaming | 2 | * | V | 15<br>31<br>+ 10 |
| 60 | Mult., basic facts with 2 | 2 | 54 | V | 2<br>x 9 |

* No Kennedy Kit Card Reference.

| Skill Numbers | Description of Skill | Level | Kennedy Kit No. | Horiz. or Vert. Form | Example |
|---|---|---|---|---|---|
| 61 | Add., 3-digit addends, no renaming | 2 | 12 | V | 312<br>+ 456 |
| 62 | Mult., basic facts with 5 | 2 | 55 | V | 5<br>x 9 |
| 63 | Mult., basic facts with 5 | 2 | 55 | H | 9 x 5 = ☐ |
| 64 | Add., 3-digit addends, renaming ones | 2 | 13 | V | 443<br>+ 349 |
| 65 | Mult., basic facts with 2 and 5 | 2 | * | H | 9 x 2 = ☐<br>9 x 5 = ☐ |
| 66 | Mult., basic facts with 3 | 2 | 56 | V | 3<br>x 9 |
| 67 | Mult., basic facts with 3 | 2 | 56 | H | 9 x 3 = ☐ |
| 68 | Subt., 1-digit from 2-digit, renaming | 2 | 36 | V | 85<br>- 7 |
| 69 | Subt., 2-digit from 2-digit, renaming | 2 | 37 | V | 63<br>- 14 |
| 70 | Mult., basic facts with 0, 2, 3 and 5 | 2 | * | V | 1 4<br>x 0 x 5 |
| 71 | Mult., basic facts with 4 | 2 | 58 | V | 4<br>x 9 |
| 72 | Mult., basic facts with 4 | 2 | 58 | H | 9 x 4 = ☐ |
| 73 | Mult., basic facts, 0 through 5 | 2 | * | V | Review |
| 74 | Subt., 3-digit from 3-digit, no renaming | 2 | 39 | V | 565<br>- 463 |
| 75 | Subt., 3-digit from 3-digit, renaming tens | 2 | 40 | V | 392<br>- 338 |
| 76 | Add., numbers and basic facts through 12, relation symbol (=, < or > ) missing | 2 | 115 | H | 7 ○ 4 + 1 |

* No Kennedy Kit Card Reference.

| E-12 Skill Numbers | Description of Skill | Level | Kennedy Kit No. | Horiz. or Vert. Form | Example |
|---|---|---|---|---|---|
| 77 | Subt., numbers and basic facts through 12, relations symbol (=, < or >) missing | 2 | 122 | H | 4 – 3 ○ 5 |
| 78 | Add., 1-digit addend and 2-digit addend, renaming | 2 | 9 | V | 35<br>+ 5 |
| 79 | Add., 2-digit addends, renaming | 2 | 10 | V | 67<br>+ 25 |
| 80 | Add., column, 2-digit addends, without and with renaming | 2 | 11 | V | 14<br>14<br>+ 22 |
| 81 | Add., 3-digit addends, no renaming | 3 | 12 | V | 425<br>+ 364 |
| 82 | Add., 3-digit addends, renaming ones | 3 | 13 | V | 543<br>+ 118 |
| 83 | Add., 3-digit addends, renaming tens | 3 | 14 | V | 456<br>+ 253 |
| 84 | Add., 3-digit addends, dollars and cents, renaming tens | 3 | 15<br>18 | V | $ 4.34<br>+ 2.71 |
| 85 | Mult., basic facts with 6 | 3 | 59 | V | 6<br>x 9 |
| 86 | Mult., basic facts with 6 | 3 | 59 | H | 9 x 6 = ☐ |
| 87 | Mult., basic facts with 7 | 3 | 60 | H & V | 9 x 7 = ☐<br>7<br>x 9 |
| 88 | Mult., basic facts with 8 | 3 | 61 | H & V | 9 x 8 = ☐<br>8<br>x 9 |
| 89 | Mult., basic facts, 5 through 8 | 3 | 64<br>132 | H & V | Review |
| 90 | Mult., basic facts with 9 | 3 | 62 | H & V | 9 x 9 = ☐<br>9<br>x 9 |

* No Kennedy Kit Card Reference.

| Skill Numbers | Description of Skill | Level | Kennedy Kit No. | Horiz. or Vert. Form | Example |
|---|---|---|---|---|---|
| 91 | Mult., basic facts, 1 through 9 | 3 | 64<br>65<br>134 | H & V | Review |
| 92 | Mult. with 10 | 3 | 63 | V | 10<br>x 9 |
| 93 | Subt., 3-digit from 3-digit, renaming tens and hundreds | 3 | 41 | V | 655<br>-296 |
| 94 | Mult., 2-digit by 1-digit, multiplicand between 10 and 20, no renaming | 3 | 68 | H & V | 3 x 12 = ☐<br>11<br>x 6 |
| 95 | Div., basic facts, divisors 2 and 3 | 3 | 91 | H & V | 16 + 2 = ☐<br>3) 9 |
| 96 | Div., basic facts, divisors 4 and 5 | 3 | 92 | H & V | 32 + 4 = ☐<br>5) 45 |
| 97 | Div., basic facts, divisors 2 through 5 | 3 | 91<br>92 | V | Review |
| 98 | Div., basic facts, divisors 6 and 7 | 3 | 93 | H & V | 48 + 6 = ☐<br>7) 56 |
| 99 | Div., basic facts, divisors 8 and 9 | 3 | 94 | H & V | 64 + 8 = ☐<br>9) 72 |
| 100 | Add., 4-digit addends, renaming ones and tens | 3 | 16 | V | 7449<br>+ 1063 |
| 101 | Div., basic facts, divisors 2 through 9 | 3 | 91-94<br>138<br>140 | H & V | Review |
| 102 | Mixed mult. and div., basic facts with 2 and 3 | 3 | 54<br>56<br>91 | V | 2) 18<br>7<br>x 3 |
| 103 | Mixed mult. and div., basic facts with 4 and 5 | 3 | 55<br>58<br>92 | H | 20 + 5 = ☐<br>4 x 5 = ☐ |
| 104 | Mixed mult. and div., basic facts with 6 and 7 | 3 | 59<br>60<br>93 | V | 6) 36<br>2<br>x 7 |

* No Kennedy Kit Card Reference.

| E-14 Skill Numbers | Description of Skill | Level | Kennedy Kit No. | Horiz. or Vert. Form | Example |
|---|---|---|---|---|---|
| 105 | Mixed mult. and div., basic facts, 8's and 9's | 3 | 61<br>62<br>94 | H | 64 ÷ 8 = ☐<br>9 x 8 = ☐ |
| 106 | Mult., 3-digit by 1-digit, no renaming | 3 | 71 | V | 312<br>x 4 |
| 107 | Mult., 2-digit by 1-digit, multiplicand between 10 and 20 | 3 | 69 | V | 16<br>x 5 |
| 108 | Mult., 3-digit by 1-digit, renaming to tens | 3 | 72 | V | 324<br>x 3 |
| 109 | Div., 2-digit and 3-digit by 1-digit, quotient greater than 10, no remainders | 3 | 96 | V | $7\overline{)637}$ |
| 110 | Add., column, 2-digit addends, renaming | 3 | 11 | V | 13<br>83<br>+ 97 |
| 111 | Subt., 3-digit from 3-digit, no renaming | 3 | 39 | V | 565<br>- 121 |
| 112 | Subt., 3-digit from 3-digit, renaming tens | 3 | 40 | V | 837<br>- 509 |
| 113 | Subt., dollars and cents, renaming | 3 | 38 | V | $ 9.35<br>- 5.16 |
| 114 | Mixed add. and subt., dollars and cents, renaming | 3 | 18<br>38 | V | Review |
| 115 | Mult., basic facts, products through 81, second factor missing | 3 | 135 | H | 9 x ☐ = 63 |
| 116 | Mult., basic facts, products through 81, first factor missing | 3 | 135 | H | ☐ x 7 = 63 |
| 117 | Mult., basic facts, products through 81, either factor or product missing | 3 | 135 | H | Review |
| 118 | Mult., basic facts, products through 81, relations symbol (=, < or > ) missing | 3 | 137 | H | 8 x 9 ○ 9 x 9 |

* No Kennedy Kit Card Reference.

| ill Numbers | Description of Skill | Level | Kennedy Kit No. | Horiz. or Vert. Form | Example |
|---|---|---|---|---|---|
| 119 | Div., basic facts, dividends through 25, divisor missing | 3 | 139 | H | $24 \div \square = 4$ |
| 120 | Div., basic facts, dividends through 25, relations symbol (=, < or > ) missing | 4 | 142 | H | $25 \div 5 \bigcirc 24 \div 3$ |
| 121 | Mult., basic facts, products through 25 | 4 | 132 | H | $8 \times 2 = \square$ |
| 122 | Div., 2-digit by 1-digit, no remainders | 4 | * | H | $48 \div 4 = \square$ |
| 123 | Mult., basic facts, products through 81, product missing | 4 | 134 | H | Review |
| 124 | Mixed mult. and div., basic facts, product or quotient missing | 4 | 134<br>140 | H | Review |
| 125 | Mult. with 10 and 100 as factors | 4 | 66 | V | $\begin{array}{r} 75 \\ \underline{\times\ 10} \end{array} \quad \begin{array}{r} 100 \\ \underline{\times\ 35} \end{array}$ |
| 126 | Div., 2-digit and 3-digit by 1-digit, quotient greater than 10, no remainders | 4 | 98 | V | Review |
| 127 | Div., 2-digit and 3-digit by 1-digit, quotient greater than 10, remainders | 4 | 98 | V | $3\overline{)\,127} \quad 8\overline{)\,89}$ |
| 128 | Mult. with multiples of 100 | 4 | 67 | V | $\begin{array}{r} 800 \\ \underline{\times\ \ 7} \end{array}$ |
| 129 | Div., 3-digit by 2-digit, quotient between 10 and 20, with and without remainders | 4 | 100 | V | $23\overline{)\,443}$ |
| 130 | Add., 3 addends, horizontal form | 4 | * | H | $6 + 8 + 3 = \square$ |

* No Kennedy Kit Card Reference.

| E-16 Skill Numbers | Description of Skill | Level | Kennedy Kit No. | Horiz. or Vert. Form | Example |
|---|---|---|---|---|---|
| 131 | Mult. with multiples of 10 and 100 | 4 | 67 | H | 8 x 30 = ☐<br>5 x 600 = ☐ |
| 132 | Subt., 3-digit from 3-digit, renaming tens and hundreds | 4 | 41 | V | 718<br>- 669 |
| 133 | Mixed add. and subt., 3-digit addends, renaming | 4 | 15<br>41 | V | Review |
| 134 | Add., 4-digit addends, renaming ones and tens | 4 | 16 | V | 4361<br>+ 4285 |
| 135 | Mult., 2-digit by 1-digit, multiplicand greater than 10, renaming | 4 | 70 | V | 68<br>x 4 |
| 136 | Mult., 3-digit by 1-digit, renaming | 4 | 73 | V | 453<br>x 4 |
| 137 | Mult., 2-digit by multiple of 10, renaming | 4 | 74 | V | 34<br>x 20 |
| 138 | Division, dividends through 81, relations symbol (=, < or > ) missing | 4 | 143 | H | 36 ÷ 6 ○ 36 ÷ 9 |
| 139 | Multiplication, dollars and cents by 1-digit and 2-digit multipliers, renaming | 4 | 79<br>80 | V | $ 2.58<br>x 6<br>$6.27<br>x 47 |
| 140 | Mult., 3-digit by multiple of 10, renaming | 4 | * | V | 165<br>x 20 |
| 141 | Mult., 3-digit by 2-digit, renaming | 4 | 78 | V | 852<br>x 36 |
| 142 | Mult., multiplicand greater than 1000, by 1-digit multiplier, renaming | 4 | 81 | V | 2146<br>x 3 |
| 143 | Div., 2-digit and 3-digit by 1-digit, quotient greater than 10, no remainders | 4 | 96 | V | Review |

* No Kennedy Kit Card Reference.

| Skill Number | Description of Skill | Level | Kennedy Kit No. | Horiz. or Vert. Form | Example |
|---|---|---|---|---|---|
| 144 | Div., 2-digit and 3-digit by 1-digit, no remainders | 4 | * | H | $120 \div 2 = \square$ |
| 145 | Add., decimals, tenths, renaming | 4 | * | V | $\begin{array}{r} .8 \\ +\,1.7 \\ \hline \end{array}$ |
| 146 | Subt., decimals, tenths, renaming | 4 | * | V | $\begin{array}{r} 2.3 \\ -\ \ .7 \\ \hline \end{array}$ |
| 147 | Subt., fractions, like denominators | 4 | 44 | V | $\begin{array}{r} \frac{4}{4} \\ -\,\frac{1}{4} \\ \hline \end{array}$ |
| 148 | Add., mixed numerals, like denominators, answers simplified | 4 | 24 | V | $\begin{array}{r} 3\frac{1}{5} \\ +\,2\frac{2}{5} \\ \hline \end{array}$ |
| 149 | Mixed practice, basic facts through 81 | 4 | * | H | Review |
| 150 | Add., fractions, unlike denominators, sums less than 1, answers simplified | 4 | 25 | V | $\begin{array}{r} \frac{1}{2} \\ +\,\frac{1}{3} \\ \hline \end{array}$ |
| 151 | Subt., numbers greater than 1000, renaming | 4 | 42 | V | $\begin{array}{r} 9276 \\ -\,1247 \\ \hline \end{array}$ |
| 152 | Mixed add., subt., parentheses, 3 addends, factors, etc. on each side of missing relations symbol (=, < or > ) | 4 | 144 | H | $4x(6+2) \bigcirc 4x(3+5)$ |
| 153 | Subt., fractions, unlike denominators, answers simplified | 4 | 49 | V | $\begin{array}{r} \frac{8}{9} \\ -\,\frac{2}{3} \\ \hline \end{array}$ |
| 154 | Add., dollars and cents, renaming | 4 | 18 | V | Review |
| 155 | Subt., dollars and cents, renaming | 4 | 38 | V | Review |
| 156 | Mixed mult. and div., 3-digit by 2-digit | 4 | 78<br>100 | V | Review |

* No Kennedy Kit Card Reference.

| E-18 Skill Number | Description of Skill | Level | Kennedy Kit No. | Horiz. or Vert. Form | Example |
|---|---|---|---|---|---|
| 157 | Mult., whole number by fraction with numerator of 1, answers simplified | 4 | 83 | H | $2 \times \frac{1}{4} = \square$ |
| 158 | Mult., 2-digit through 4-digit by 1-digit | 4 | * | V | Review |
| 159 | Standard numerals | 4 | * | | Forty-six = ____ |
| 160 | Roman numerals (I, V, X) | 4 | * | | III = ____ |
| 161 | Add., column, 3-digit through 5-digit addends, renaming | 5 | 17 | V | $\begin{array}{r}585\\284\\+\ 342\\\hline\end{array}$ |
| 162 | Mult., dollars and cents by 1-digit multiplier, renaming | 5 | 79 | V | Review |
| 163 | Mult., 4-digit by 1-digit, renaming | 5 | * | V | $\begin{array}{r}3300\\\times\ \ 6\\\hline\end{array}$ |
| 164 | Mult., dollars and cents by 2-digit multiplier, renaming | 5 | 80 | V | Review |
| 165 | Div., 3-digit by 1-digit, quotient greater than 100, remainders | 5 | * | H | $335 \div 3 = \square$ |
| 166 | Div., 2-digit and 3-digit by 1-digit, remainders | 5 | 98<br>99 | V | Review |
| 167 | Mult., fraction by whole number, answers simplified | 5 | 83 | H | Review |
| 168 | Mult., fraction by fraction, numerators of 1 | 5 | 85 | H | $\frac{1}{3} \times \frac{1}{2} = \square$ |
| 169 | Div., 4-digit by 2-digit, remainders | 5 | 102 | V | $42\overline{)\,1737}$ |
| 170 | Mult., fraction with numerator greater than 1 by whole number, answers simplified | 5 | 84 | H | $\frac{2}{5} \times 5 = \square$ |

* No Kennedy Kit Card Reference.

| Skill Number | Description of Skill | Level | Kennedy Kit No. | Horiz. or Vert. Form | Example |
|---|---|---|---|---|---|
| 171 | Add., decimals, tenths, renaming | 5 | 28 | V | $\begin{array}{r} .4 \\ +\ .7 \\ \hline \end{array}$ |
| 172 | Mixed add. and subt., decimals, tenths and hundredths | 5 | 28<br>53 | V | $\begin{array}{r} 2.97 \\ +\ 1.84 \\ \hline \end{array}$ $\begin{array}{r} 9.63 \\ -\ 5.74 \\ \hline \end{array}$ |
| 173 | Add., fractions, like denominators, sums greater than 1, answers simplified | 5 | 21 | V | $\begin{array}{r} \frac{3}{8} \\ \frac{7}{8} \\ +\ \hline \end{array}$ |
| 174 | Subt., fractions, like denominators, sums greater than 1, answers simplified | 5 | 45 | V | Review |
| 175 | Mult., 2-digit and 3-digit by 1-digit, renaming | 5 | 70<br>71<br>78 | V | Review |
| 176 | Add., 4 and 5 addends, horizontal form | 5 | * | H | 4 + 1 + 3 + 2 = ☐ |
| 177 | Add., fraction and mixed numeral addends, like denominators, answers simplified | 5 | 23 | V | $\begin{array}{r} 2\frac{3}{8} \\ +\ \frac{2}{8} \\ \hline \end{array}$ |
| 178 | Mixed practice, basic facts thru 81 | 5 | * | H | Review |
| 179 | Add., fractions, unlike denominators, sums equal to 1 or greater, answers simplified | 5 | 26 | V | $\begin{array}{r} \frac{2}{3} \\ +\ \frac{5}{6} \\ \hline \end{array}$ |
| 180 | Div., dollars and cents by 1-digit | 5 | * | V | $6\overline{)\$7.56}$ |
| 181 | Subt., fraction from mixed numeral, like denominators, answers simplified | 5 | 46 | V | $\begin{array}{r} 7\frac{3}{9} \\ -\ \frac{1}{9} \\ \hline \end{array}$ |

* No Kennedy Kit Card Reference.

| E-20 Skill Number | Description of Skill | Level | Kennedy Kit No. | Horiz. or Vert. Form | Example |
|---|---|---|---|---|---|
| 182 | Mult., fraction by fraction, one with numerator of 1 and other with numerator greater than 1, answers simplified | 5 | 86 | H | $\frac{1}{2} \times \frac{2}{4} = \square$ |
| 183 | Mult., fraction by fraction, both numerators greater than 1 | 5 | 87 | H | $\frac{4}{9} \times \frac{3}{4} = \square$ |
| 184 | Mixed multiplication and division | 5 | * | V | Review |
| 185 | Subt., decimals, hundredths | 5 | 53 | V | $\begin{array}{r} 90.63 \\ -\ 45.74 \\ \hline \end{array}$ |
| 186 | Div., whole number by fraction with numerator of 1 | 5 | 106 | H | $9 \div \frac{1}{3} = \square$ |
| 187 | Decimal numerals | 5 | * | - | twelve & nine tenths = ____ |
| 188 | Add., decimals, tenths and hundredths, renaming | 5 | 28 | V | $\begin{array}{r} 6.45 \\ +\ 3.56 \\ \hline \end{array}$ |
| 189 | Subt., decimals, tenths | 5 | 52 | V | $\begin{array}{r} 1.2 \\ -\ \ .5 \\ \hline \end{array}$ |
| 190 | Div., basic facts, dividends through 81, relations symbol (=, < or > ) missing | 5 | 143 | H | $72 \div 8 \bigcirc 81 \div 9$ |
| 191 | Div., basic facts, dividends through 81, divisor or quotient missing | 5 | 141 | H | $72 \div 8 = \square$<br>$72 \div \square = 9$ |
| 192 | Fractions, simplify | 5 | * |  | $\frac{6}{12} =$ ____ |
| 193 | Div., fraction by fraction, answers simplified | 5 | 106 | H | $\frac{4}{8} \div \frac{2}{3} = \square$ |

* No Kennedy Kit Card Reference.

| Skill Number | Description of Skill | Level | Kennedy Kit No. | Horiz. or Vert. Form | Example |
|---|---|---|---|---|---|
| 194 | Mult., mixed numeral by mixed numeral, answers simplified | 5 | 89 | H | $2\frac{3}{4} \times 3\frac{1}{3} = \square$ |
| 195 | Mult., with multiples of 10 and 100 | 5 | 66<br>67 | H | $20 \times 400 = \square$ |
| 196 | Fractions, equivalent | 5 | * | | $\frac{1}{4} = \frac{\square}{12}$ |
| 197 | Div., dollars and cents, 2-digit divisors | 5 | 104 | V | $43\overline{)\,\$15.05}$ |
| 198 | Div., 5-digit by 1-digit, remainders | 5 | 103 | V | $7\overline{)\,94963}$ |
| 199 | Mixed add. and subt., decimals, tenths | 5 | 28<br>52 | V | Review |
| 200 | Mult., decimals, tenths and hundredths | 5 | 90 | V | $\begin{array}{r} 7.6 \\ \times\ .03 \\ \hline \end{array}$ |
| 201 | Add., 2-digit through 6-digit addends, renaming | 6 | * | V | Review |
| 202 | Mixed practice, add., subt., and mult. | 6 | * | V | Review |
| 203 | Mixed add. and subt., decimals, tenths and hundredths | 6 | 28<br>53 | V | Review |
| 204 | Mult., decimals, tenths, hundredths and thousandths | 6 | * | H | $7.555 \times 10 = \square$ |
| 205 | Div., by 1- and 2-digits, remainders | 6 | * | V | Review |
| 206 | Div., dollars and cents, 2-digit divisors | 6 | 104 | V | Review |
| 207 | Mult., 4-digit by 2-digit, renaming | 6 | 82 | V | $\begin{array}{r} 2352 \\ \times\ 51 \\ \hline \end{array}$ |
| 208 | Div., decimals, thousandths by 1-digit divisors (whole numbers), no remainders | 6 | 110 | V | $7\overline{)\,.469}$ |
| 209 | Div., decimals, by tenths | 6 | 145 | V | $.4\overline{)\,1.6}$ |

* No Kennedy Kit Card Reference.

| E-22 Skill Number | Description of Skill | Level | Kennedy Kit No. | Horiz. or Vert. Form | Example |
|---|---|---|---|---|---|
| 210 | Div., decimals, by hundredths | 6 | 146 | V | $.12\overline{)\,1.44}$ |
| 211 | Add., column, 3-digit through 6-digit addends, renaming | 6 | 17 | V | 782361<br>4988<br>+ 76423 |
| 212 | Subt., numbers greater than 1000, renaming | 6 | 42 | V | 4017<br>- 619 |
| 213 | Fractions, simplify | 6 | * | - | Review |
| 214 | Fractions, simplify | 6 | * | - | $\frac{32}{12} =$ _____ |
| 215 | Roman numerals (I, V, X, L, C) | 6 | * | - | VI = _____ |
| 216 | Write standard numerals | 6 | * | - | 900 + 60 + 3 = ☐ |
| 217 | Mixed add. and subt., fractions, unlike denominators | 6 | 25<br>49 | V | Review |
| 218 | Div., dollars and cents, 2-digit divisors, no remainders | 6 | 104 | V | Review |
| 219 | Mult., fractions, whole numbers and mixed numerals, answers simplified | 6 | 84<br>87<br>88 | H | Review |
| 220 | Div., fractions and whole numbers, answers simplified | 6 | 106<br>107 | H | Review |
| 221 | Round to nearest thousand | 6 | * |  | 5,867 = _____ |
| 222 | Square roots | 6 | * |  | $\sqrt{4}$ |
| 223 | Exponents | 6 | * |  | $6^2 = \square$ $6^3 = \square$ |
| 224 | Write decimals, tenths, hundredths, thousandths | 6 | * |  | four hundredths = ____ |
| 225 | Express decimals as percents | 6 | * |  | .13 = ☐ % |
| 226 | Express percents as decimals | 6 | * |  | 12.5% = ☐ |

*No Kennedy Kit Card Reference.

| [illegible] | Description of Skill | Level | Kennedy Kit No. | Horiz. or Vert. Form | Example |
|---|---|---|---|---|---|
| 227 | Find percents | 6 | * | | 42% of 500 = ☐ |
| 228 | Mult., decimals, tenths and hundredths | 6 | 90 | V | Review |
| 229 | Mult. and div., basic facts, products and dividends through 81, relations symbol (=, < or > ) missing | 6 | 137<br>142 | H | 5 x 1 ○ 2 x 3 |
| 230 | Mixed add., subt., mult., div.; parentheses, 3 addends, factors, etc., on each side of missing relations symbol (=, < or > ) | 6 | 144 | H | (4x3)+1 ○ (2x6)+1 |
| 231 | Mult. by factors of 10, 100, and 1000 | 6 | 66 | V | $\begin{array}{r}7\\ \times\ 10\\ \hline\end{array}$ $\begin{array}{r}11\\ \times\ 1000\\ \hline\end{array}$ |
| 232 | Mult., 3-digit by 3-digit, renaming | 6 | * | V | $\begin{array}{r}314\\ \times\ 122\\ \hline\end{array}$ |
| 233 | Div., by multiples of 10 and 100 | 6 | * | V | $70\overline{)\,350}$ |
| 234 | Div., 3-digit by 2-digit, quotient between 10 and 20 with and without remainders | 6 | 100 | V | $48\overline{)\,187}$ |
| 235 | Div., decimals, tenths, hundredths, thousandths | 6 | * | V | $0.8\overline{)\,4.8}$ |
| 236 | Roman numerals, (I, V, X, L, C) | 6 | * | | 12 = ____ |
| 237 | Add., column, renaming | 6 | * | V | $\begin{array}{r}492\\ 331\\ +\ 145\\ \hline\end{array}$ |
| 238 | Add., decimals, tenths, hundredths, thousandths, ten thousandths | 6 | * | H | .4 + 3.002 = ☐ |
| 239 | Mixed add. and subt., decimals, tenths, hundredths, thousandths, ten thousandths | 6 | * | H | .98 - .34 = ☐ |
| 240 | Decimals, tenths, hundredths, thousandths, ten thousandths, relations symbol (=, < or > ) | 6 | * | H | .84 ○ .48 |

*No Kennedy Kit Card Reference.

# QUICK DRILL DIAGRAM

Drill Number → # 31 Skill

Level 1 ← Placement level

Abbreviated description of skill → Add. thru 12, 2nd addend missing

Prob. 8 ← Item 8 on Level 1 Computation Inventory. If ** is in this place the skill is not on the Inventory. If Review is in this place the skill or skills have been on a previous drill.

K. K. 112 ← Kennedy Kit Card numbers. If * is in this place there are no Kennedy Kit references.

Items on the drill →

Answers to items (folded out of sight during drill session)

| | |
|---|---|
| 9 + __ = 10 | 1 |
| 3 + __ = 10 | 7 |
| 5 + __ = 9 | 4 |
| 7 + __ = 12 | 5 |
| 8 + __ = 10 | 2 |
| 1 + __ = 10 | 9 |
| 2 + __ = 10 | 8 |
| 7 + __ = 11 | 4 |
| 4 + __ = 10 | 6 |
| 5 + __ = 12 | 7 |
| 6 + __ = 12 | 6 |
| 7 + __ = 9 | 2 |
| 3 + __ = 8 | 5 |
| 6 + __ = 10 | 4 |
| 4 + __ = 12 | 8 |
| 5 + __ = 10 | 5 |

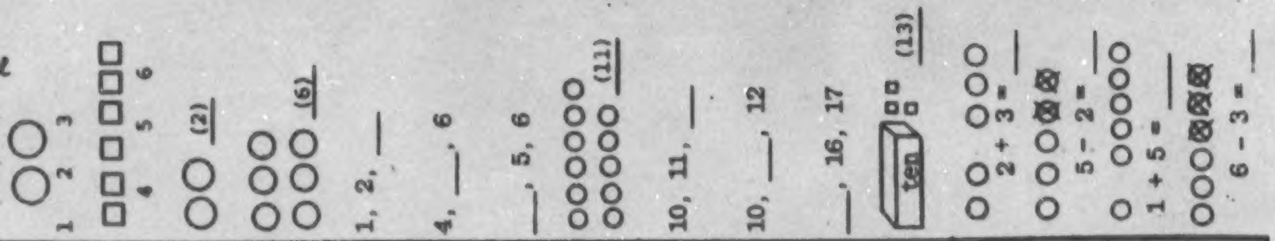
**QUICK DRILL CLASS RECORD**
**LEVEL K-1 (Tests A-P)**

*Sample item for each drill*

Teacher________________

Grade________________

Date________________



| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. | | | | | | | | | | | | | | | | |
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| 27. | | | | | | | | | | | | | | | | |
| 28. | | | | | | | | | | | | | | | | |
| 29. | | | | | | | | | | | | | | | | |
| 30. | | | | | | | | | | | | | | | | |

CVCSD/AI61(159)6-77

QUICK DRILL CLASS RECORD
LEVEL I
PART 1(Tests 1-20)

*Circled Numerals refer to Kennedy Kit Card*

*Sample item for each drill*

Teacher________________

Grade________________

Date________________

| | * | * | * | * | * | * | * | * | * | * | ⑥ | * | * | * | * | * | * | * | ① | ㉙ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2<br>+3 | 3 + 2 = ☐ | 5<br>-1 | 5<br>-4 | Review: mixed add. & subt. | 5 - 4 = ☐ | 2 + ☐ = 5 | ☐ + 3 = 5 | 5 - ☐ = 2 | ☐ - 3 = 2 | 1<br>5<br>+2 | 4<br>+2 | 6<br>-5 | Review: Add & Subt. | 4 + 3 = ☐ | 7 - 6 = ☐ | 5<br>+3 | 8<br>-7 | 4<br>+5 | 9<br>-8 |
| NAME | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 1. | | | | | | | | | | | | | | | | | | | | |
| 2. | | | | | | | | | | | | | | | | | | | | |
| 3. | | | | | | | | | | | | | | | | | | | | |
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| 30. | | | | | | | | | | | | | | | | | | | | |

CVCSD/A161(160)6-77

QUICK DRILL CLASS RECORD
LEVEL I
PART 2 (Tests 21-40)

*Circled Numerals refer to Kennedy Kit Card*

**No Kennedy Kit Card reference here.*

*Sample item for each drill*

Teacher__________________

Grade____________________

Date

| | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | * | ② | ㉚ | * | * | ③ | ㉛ | ④ | ㉜ | * | (112) | (113) | (119) | (120) | ⑧ | * | ⑦ | ㉞ | * | ㉟ |
| | | | | | | | | | | | | | | | | | No Renaming | | | |
| | Review: Add & Subt. | 9<br>+1 | 10<br>−9 | 1 + 9 = □ | 10 − 9 = □ | 9<br>+2 | 11<br>−9 | 3<br>+9 | 12<br>−9 | Review: Add & Subt. | 7 + □ = 12 | □ + 7 = 12 | 12 − □ = 5 | □ − 7 = 5 | 20 + 40 = □ | 11 + 7 = □ | 38<br>+1 | 86<br>−5 | 51<br>+23 | 87<br>−53 |
| NAME | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| 1. | | | | | | | | | | | | | | | | | | | | |
| 2. | | | | | | | | | | | | | | | | | | | | |
| 3. | | | | | | | | | | | | | | | | | | | | |
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CVCSD/A161(161)6-77

QUICK DRILL CLASS RECORD
LEVEL II
Part 1 (Tests 41-60)

*Circled Numerals refer to Kennedy Kit Card*

**No Kennedy Kit Card reference here.*

*Sample item for each drill*

Teacher________________

Grade________________

Date________________

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | * | * | * | * | * | * | * | * | (114) | (121) | (114<br>121) | ⑤ | ㉝ | (112) | (113) | (119) | (120) | ⑥ | * | (54) |
| | 9 + 4 = ☐ | 13 - 4 = ☐ | Review: Add & Subt. | 9 + 6 = ☐ | 15 - 9 = ☐ | 9<br>+6 | 15<br>-9 | Review: Add & Subt. | 9 + 9 = ☐ | 18 - 9 = ☐ | Review: Add & Subt. | 9<br>+9 | 18<br>-9 | 9 + ☐ = 18 | ☐ + 9 = 18 | 18 - ☐ = 9 | ☐ - 9 = 9 | Review<br>8<br>1<br>+5 | 15<br>31<br>+10 | Mult., 2's |
| NAME | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| 1. | | | | | | | | | | | | | | | | | | | | |
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CVCSD/A161(162)6-77

E-28

QUICK DRILL CLASS RECORD
LEVEL II
PART 2 (Tests 61-80)

*Sample item for each drill*

Teacher________________

Grade________________

Date________________

*Circled Numerals refer to Kennedy Kit Card*

**No Kennedy Kit Card Reference here*

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ⑫ | (55) | (55) | ⑬ | * | (56) | (56) | ㊱ | ㊲ | * | (58) | (58) | * | ㊴ | ㊵ | (115) | (122) | ⑨ | ⑩ | ⑪ |
| | | | | | | | | | | | | | | | | | | Renaming | | |
| | 312<br>+456 | Mult., 5's V. | Mult., 5's H. | 443<br>+349 | Mult., 2's & 5's H. | Mult., 3's V. | Mult., 3's H. | 85<br>- 7 | 63<br>-14 | Mult., 0's 2's, 3's, 5's | Mult., 4's V. | Mult., 4's H. | Review: Mult., 0 thru 5 V | 565<br>-463<br>↑ | 392<br>-338 | 7 ○ 4 + 1 | 4 - 3 ○ 55 | 35<br>+5 | 67<br>+25 | 14<br>14<br>+22 |
| NAME | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| 1. | | | | | | | | | | | | | | | | | | | | |
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CVCSD/A161(163)6-77

E-29

QUICK DRILL CLASS RECORD
LEVEL III
PART 1 (Tests 81-100)

*Circled Numerals refer to Kennedy Kit Card*

*Sample item for each drill*

Teacher__________________

Grade__________________

Date__________________

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | ⑫ | ⑬ | ⑭ | (15<br>18) | (59) | (59) | (60) | (61) | (64<br>132) | (62) | (64<br>65<br>134) | (63) | ㊶ | (68) | (91) | (92) | (91<br>92) | (93) | (94) | ⑯ |
|  | 425<br>+364 | Renaming<br>543<br>+118 | 456<br>+253 | $4.34<br>+ 2.71 | Mult., 6's V. | Mult., 6's H. | Mult., 7's | Mult., 8's | Review:<br>Mult. thru 8 | Mult., 9's | Review:<br>Mult. thru 9 | Mult., 10's | 655<br>-286 | 3 x 12 = ☐ | Div.,<br>2's & 3's | Div.,<br>4's & 5's | Review:<br>Div. thru 5 | Div.,<br>6's & 7's | Div.,<br>8's & 9's | 7449<br>+1063<br>↑ |
| NAME | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| 1. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| 3. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| 24. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| 26. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| 28. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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CVCSD/A161(164)6-77

E-30

QUICK DRILL CLASS RECORD
LEVEL III
PART 2 (Tests 101-120)

*Circled Numerals refer to Kennedy Kit Card*

**No Kennedy Kit Card Reference here*

*Sample item for each drill*

Teacher________________

Grade________________

Date

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 91-94<br>138<br>140 | 54<br>56<br>91 | 55<br>58<br>92 | 59<br>60<br>93 | 61<br>62<br>94 | 71 | 69 | 72 | 96 | 11 | 39 | 40 | 38 | 18<br>38 | 135 | 135 | 135 | 137 | 139 | 14 |
| | Review: Div. 2 thru 9 | Mult., div. 2's & 3's | Mult., div. 4's & 5's | Mult., div. 6's & 7's | Mult., div. 8's & 9's | 312<br>x 4 | 16<br>x5 | 324<br>x 3 | 7)637 | 13<br>83<br>+97 | 565<br>-121<br>↑ | 837<br>-509 | $9.35<br>- 5.16<br>↑ | Review: Add. & subt. $ & ¢ | 9 x □ = 63 | □ x 7 = 63 | Review: mult. miss. factors | 8x9 ○ 9x9 | 24 ÷ □ = 4 | 25 ÷ 5 ○ 24 ÷ 3 |
| NAME | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 |
| 1. | | | | | | | | | | | | | | | | | | | | |
| 2. | | | | | | | | | | | | | | | | | | | | |
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CVCSD/A161(165)6-77

E-31

QUICK DRILL CLASS RECORD
LEVEL IV
PART 1 (Tests 121-140)

*Circled Numerals refer to Kennedy Kit Card*

**No Kennedy Kit Card reference here.*

*Sample item for each drill*

Teacher__________________

Grade____________________

Date_____________________

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | (132) | * | (134) | (134<br>140) | (66) | (96) | (98) | (67) | (100) | * | (67) | (41) | (15<br>41) | (16) | (70) | (73) | (74) | (143) | (79<br>80) | * |
| | Review: Mult. facts | 48 ÷ 4 = ☐ | Review: Mult. facts | Review: Mix. mult. & div. | Mult by 10's & 100's | Review: 7)637 | 3)127 | 800<br>x 7 | 23)443 | 6+8+3 = ☐ | 8 x 30 = ☐ | 718<br>-669 | Review: Add & Subt. | 4361<br>+4285 | 68<br>x 4 | 453<br>x 4 | 34<br>x20 | 36÷6 ○ 36÷9 | $2.58<br>x 6 | 165<br>x 20 |
| NAME | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 | 131 | 132 | 133 | 134 | 135 | 136 | 137 | 138 | 139 | 140 |
| 1. | | | | | | | | | | | | | | | | | | | | |
| 2. | | | | | | | | | | | | | | | | | | | | |
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CVCSD/A161(166)6-77

E-32

QUICK DRILL CLASS RECORD
LEVEL IV
PART 2 (Tests 141-160)

*Sample item for each drill*

Teacher__________________

Grade__________________

Date__________________

*Circled Numerals refer to Kennedy Kit Card*

**No Kennedy Kit Card reference here.*

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | (78) | (81) | (96) | * | * | * | ㊹ | ㉔ | * | ㉕ | ㊷ | (144) | ㊾ | ⑱ | ㊳ | (78/100) | (83) | * | * | * |
| | 852<br>x36 | 2146<br>x 3 | Review:<br>$6\overline{)276}$ | 120 ÷ 2 = ☐ | .8<br>+1.7 | 2.3<br>-.7 | $\frac{4}{4} - \frac{1}{4}$ | $3\frac{1}{5} + 2\frac{2}{5}$ | Review:<br>Mixed practice | $\frac{1}{2} + \frac{1}{3}$ | 9276<br>-1247 | 4x(6+2) ○ 4x(3+5) | $\frac{8}{9} - \frac{2}{3}$ | Review:<br>$3.57<br>+4.32 | Review:<br>$4.57<br>-2.64 | Review:<br>Div. & Mult. | $2 \times \frac{1}{4} = ☐$ | Review: Mult. | Forty-six = (46) | Rom. num.<br>(I, V, X) |
| NAME | 141 | 142 | 143 | 144 | 145 | 146 | 147 | 148 | 149 | 150 | 151 | 152 | 153 | 154 | 155 | 156 | 157 | 158 | 159 | 160 |
| 1. | | | | | | | | | | | | | | | | | | | | |
| 2. | | | | | | | | | | | | | | | | | | | | |
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CVCSD/A161(167)6-77

E-33

**QUICK DRILL CLASS RECORD**
**LEVEL V**
**PART 1 (Tests 161-180)**

*Circled Numerals refer to Kennedy Kit Card*

**No Kennedy Kit Card reference here.*

*Sample item for each drill*

Teacher________________

Grade________________

Date________________

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ⑰ | (79) | * | (80) | * | (98)<br>(99) | (83) | (85) | (102) | (84) | ㉘ | ㉘<br>(53) | ㉑ | ㊺ | (70)<br>(71)<br>(78) | * | ㉓ | * | ㉖ | * |
| | Column Add.; renaming | Review: $4.65 x 4 | 3300 x 6 | Review: $15.60 x 74 | 335 ÷ 3 = ☐ | Review: $8\overline{)89}$ | $\frac{1}{3} \times 5 = \square$ Review: | $\frac{1}{3} \times \frac{1}{2} = \square$ | $42\overline{)1737}$ | $\frac{2}{5} \times 5 = \square$ | .4 + .7 | Mixed add. & subt., decimals | $8\frac{3}{8} + \frac{7}{8}$ | Review: $\frac{5}{4} - \frac{1}{4}$ | Review: Mult. | 4+1+3+2 = ☐ | $2\frac{3}{8} + \frac{2}{8}$ | Review: mixed practice | $\frac{2}{3} + \frac{5}{6}$ | $6\overline{)\$7.56}$ |
| NAME | 161 | 162 | 163 | 164 | 165 | 166 | 167 | 168 | 169 | 170 | 171 | 172 | 173 | 174 | 175 | 176 | 177 | 178 | 179 | 180 |
| 1. | | | | | | | | | | | | | | | | | | | | |
| 2. | | | | | | | | | | | | | | | | | | | | |
| 3. | | | | | | | | | | | | | | | | | | | | |
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CVCSD/A161(168)6-77

QUICK DRILL CLASS RECORD
LEVEL V
PART 2 (Tests 181-200)

*Sample item for each drill*

Teacher________________

Grade________________

Date________________

*Circled Numerals refer to Kennedy Kit Card*

**No Kennedy Kit Card reference here.*

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ㊻ | (86) | (87) | * | (53) | (106) | * | ㉘ | (52) | (143) | (141) | * | (106) | (89) | (66)<br>(67) | * | (104) | (103) | ㉘<br>(52) | (90) |
| | $7\frac{3}{9} - \frac{1}{9}$ | $\frac{1}{2} \times \frac{2}{4} = \square$ | $\frac{4}{9} \times \frac{3}{4} = \square$ | Review: Mixed div. & mult. | $90.63 - 45.74$ | $9 \div \frac{1}{3} = \square$ | Write decimal numbers | $6.45 + 3.56$ | $1.2 \div .5$ | $72 \div 8 \bigcirc 81 \div 9$ | $72 \div 8 = \square$<br>$72 \div \square = 9$ | Simplify: $\frac{6}{12} = (\frac{1}{2})$ | $\frac{4}{8} \div \frac{2}{3} = \square$ | $2\frac{3}{4} \times 3\frac{1}{3} = \square$ | $20 \times 400 = \square$ | $\frac{1}{4} = \frac{\square}{12}$ | $43\overline{)\$15.05}$ | $7\overline{)94953}$ | Review: Add. & subt. decimals | $7.6 \times .03$ |
| NAME | 181 | 182 | 183 | 184 | 185 | 186 | 187 | 188 | 189 | 190 | 191 | 192 | 193 | 194 | 195 | 196 | 197 | 198 | 199 | 200 |
| 1. | | | | | | | | | | | | | | | | | | | | |
| 2. | | | | | | | | | | | | | | | | | | | | |
| 3. | | | | | | | | | | | | | | | | | | | | |
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QUICK DRILL CLASS RECORD
LEVEL VI
PART 1 (Tests 201-220)

*Circled Numerals refer to Kennedy Kit Card*

**No Kennedy Kit Card reference here.*

*Sample item for each drill*

Teacher____________________

Grade____________________

Date____________________

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | * | * | 28<br>53 | * | * | 104 | 82 | 110 | 145 | 146 | 17 | 42 | * | * | * | * | 25<br>49 | 104 | 84<br>87<br>88 | 106 |
| | Review: Add., renaming | Review: Mixed practice | Review: Add. & subt., dec. | .57<br>x10 | Review: Div., | Review: Div., dollars & cents | 2352<br>x 51<br>↑ | 7) .469 | .4) 1.6 | .12) 1.44 | Review: Column Add. | 4017<br>-619<br>↑ | Review: Simplify fract. | $\frac{9}{2} = (4\frac{1}{2})$ | Rom. num. (I,V,X,L,C) | 900+60+3 = ☐ | Review: Add. & subt. fract. | Review: div., dollars, cents | $\frac{5}{9} \times 4 = \square$ | $9 \div \frac{1}{3} = \square$ |
| NAME | 201 | 202 | 203 | 204 | 205 | 206 | 207 | 208 | 209 | 210 | 211 | 212 | 213 | 214 | 215 | 216 | 217 | 218 | 219 | 220 |
| 1. | | | | | | | | | | | | | | | | | | | | |
| 2. | | | | | | | | | | | | | | | | | | | | |
| 3. | | | | | | | | | | | | | | | | | | | | |
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CVCSD/A161(170)6-77

**QUICK DRILL CLASS RECORD**
**LEVEL VI**
**PART 2 (Tests 221-240)**

*Sample item for each drill*

Teacher________________

Grade________________

Date

*Circled Numerals refer to Kennedy Kit Card*

**No Kennedy Kit Card reference here.*

|  | * | * | * | * | * | * | * | (90) | (137 142) | (144) | (66) | * | * | (100) | * | * | * | * | * | * |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | Round to nearest thou. | Square roots | Exponents | Write decimals | Express decimals as %'s | Express %'s as decimals | 42% of 500=☐ | 3.62<br>x 5 | 5x1○2x3 | (4x3)+1○(2x6)+1 | 7<br>x10 | 314<br>x122 | 70)350 | 48)157 | 0.8)4.8 | Rom. num. (I,V,X,L,C) | Column Add. | .4 + 3.002=☐ | .98 - .34 =☐ | .84○.48 |
| **NAME** | 221 | 222 | 223 | 224 | 225 | 226 | 227 | 228 | 229 | 230 | 231 | 232 | 233 | 234 | 235 | 236 | 237 | 238 | 239 | 240 |
| 1. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 10. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 11. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 13. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 14. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 16. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 17. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 18. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 19. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 20. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 21. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 22. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 23. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 24. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 25. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 26. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 27. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 28. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 29. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 30. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

CVCSD/A161(171)6-77

E-37

# CHULA VISTA PRESCRIPTIVE MATHEMATICS PROGRAM

## QUICK DRILLS (REDUCED)

Level K-1 Quick Drills A-H

**# A Skill** Level K-1
Match sets with numerals (1-5)

| | | |
|---|---|---|
| ○ ○ | 1 2 3 | 2 |
| △ △ △ | 1 2 3 | 3 |
| □ | 1 2 3 | 1 |
| ○ ○ ○ ○ ○ | 5 6 7 | 5 |
| △ △ △ △ | 3 4 5 | 4 |
| ○ ○ ○ | 1 2 3 | 3 |
| □ □ | 2 3 4 | 2 |

**# B Skill** Level K-1
Match sets with numerals (1-10)

| | | |
|---|---|---|
| □ □ □ □ | 3 4 5 | 4 |
| △ △ △<br>△ △ △ | 6 7 8 | 6 |
| ○ ○ ○ ○ ○<br>○ ○ ○ ○ | 8 9 10 | 9 |
| ⬡ ⬡ ⬡ ⬡ ⬡ | 4 5 6 | 5 |
| □ □ □ □<br>□ □ □ □ | 8 9 10 | 8 |
| △ △ △ △<br>△ △ △ | 6 7 8 | 7 |
| ○ ○ ○ | 3 4 5 | 3 |

**# C Skill** Level K-1
Count objects, write numerals (1-5)

| | |
|---|---|
| ○ ○ ___ | 2 |
| △ △<br>△ △ ___ | 4 |
| □ ___ | 1 |
| ○ ○ ○<br>○ ○ ___ | 5 |
| ⬡ ⬡ ⬡ ___ | 3 |
| △ △ ___ | 2 |
| □ □<br>□ □ ___ | 4 |
| ○ ○ ○ ___ | 3 |

**# D Skill** Level K-1
Count objects, write numerals (1-10)

| | |
|---|---|
| ○ ○ ○ ___ | 3 |
| ○ ○ ___ | 2 |
| ○ ○<br>○ ○ ___ | 4 |
| ○ ○ ○ ○<br>○ ○ ○ ___ | 7 |
| ○ ○ ○ ○ ○<br>○ ○ ○ ○ ___ | 9 |
| ○ ○ ○<br>○ ○ ○ ___ | 6 |
| ○ ○ ○ ○<br>○ ○ ○ ○ ___ | 8 |
| ○ ○ ○ ○ ○<br>○ ○ ○ ○ ○ ___ | 1 |

**# E Skill** Level K-1
Write order of numerals (after) (1-10)

| | |
|---|---|
| 1, 2, ___ | 3 |
| 4, 5, ___ | 6 |
| 3, 4, ___ | 5 |
| 5, 6, ___ | 7 |
| 7, 8, ___ | 9 |
| 6, 7, ___ | 8 |
| 2, 3, ___ | 4 |
| 8, 9, ___ | 10 |
| 6, 7, ___ | 8 |
| 5, 6, ___ | 7 |
| 7, 8, ___ | 9 |
| 2, 3, ___ | 4 |

**# F Skill** Level K-1
Write order of numerals (between) (1-10)

| | |
|---|---|
| 4, ___, 6 | 5 |
| 3, ___, 5 | 4 |
| 7, ___, 9 | 8 |
| 6, ___, 8 | 7 |
| 5, ___, 7 | 6 |
| 8, ___, 10 | 9 |
| 2, ___, 4 | 3 |
| 4, ___, 6 | 5 |
| 7, ___, 9 | 8 |
| 3, ___, 5 | 4 |
| 5, ___, 7 | 6 |
| 8, ___, 10 | 9 |

**# G Skill** Level K-1
Write order of numerals (before) (1-10)

| | |
|---|---|
| ___, 5, 6 | 4 |
| ___, 4, 5 | 3 |
| ___, 8, 9 | 7 |
| ___, 7, 8 | 6 |
| ___, 6, 7 | 5 |
| ___, 9, 10 | 8 |
| ___, 3, 4 | 2 |
| ___, 5, 6 | 4 |
| ___, 8, 9 | 7 |
| ___, 4, 5 | 3 |
| ___, 6, 7 | 5 |
| ___, 9, 10 | 8 |

**# H Skill** Level K-1
Count objects, write numerals (11-20)

| | |
|---|---|
| ○ ○ ○ ○ ○ ○ ○<br>○ ○ ○ ○ ○ ○ ___ | 13 |
| ○ ○ ○ ○ ○<br>○ ○ ○ ○ ○<br>○ ○ ○ ○ ○ ___ | 15 |
| ○ ○ ○ ○ ○ ○<br>○ ○ ○ ○ ○ ○<br>○ ○ ○ ○ ○ ___ | 17 |
| ○ ○ ○ ○ ○ ○ ○<br>○ ○ ○ ○ ○ ○<br>○ ○ ○ ○ ○ ○ ___ | 19 |
| ○ ○ ○ ○ ○ ○ ○<br>○ ○ ○ ○ ○ ○ ○<br>○ ○ ○ ○ ○ ○ ___ | 20 |
| ○ ○ ○ ○ ○ ○<br>○ ○ ○ ○ ○ ○<br>○ ○ ○ ○ ○ ○ ___ | 18 |
| ○ ○ ○ ○ ○<br>○ ○ ○ ○ ○<br>○ ○ ○ ○ ___ | |
| ○ ○ ○ ○ ○ ○<br>○ ○ ○ ○ ○<br>○ ○ ○ ○ ○ ___ | 16 |

## Level K-1 Quick Drills I-P

**# I Skill** Level K-1
Write order of numerals (after) (11-20)

| | |
|---|---|
| 10, 11, ____ | 12 |
| 18, 19, ____ | 20 |
| 13, 14, ____ | 15 |
| 9, 10, ____ | 11 |
| 16, 17, ____ | 18 |
| 12, 13, ____ | 14 |
| 17, 18, ____ | 19 |
| 15, 16, ____ | 17 |
| 18, 19, ____ | 20 |
| 11, 12, ____ | 13 |
| 14, 15, ____ | 16 |
| 10, 11, ____ | 12 |
| 15, 16, ____ | 17 |
| 9, 10, ____ | 11 |

**# J Skill** Level K-1
Write order of numerals(between) (11-20)

| | |
|---|---|
| 10, ____, 12 | 11 |
| 18, ____, 20 | 19 |
| 13, ____, 15 | 14 |
| 9, ____ , 11 | 10 |
| 16, ____ , 18 | 17 |
| 12, ____, 14 | 13 |
| 17, ____, 19 | 18 |
| 9, ____, 11 | 10 |
| 15, ____, 17 | 16 |
| 10, ____, 12 | 11 |
| 14, ____, 16 | 15 |
| 11, ____, 13 | 12 |
| 18, ____, 20 | 19 |
| 15, ____, 17 | 16 |

**# K Skill** Level K-1
Write order of numerals(before) (11-20)

| | |
|---|---|
| ____, 16, 17 | 15 |
| ____, 18, 19 | 17 |
| ____, 12, 13 | 11 |
| ____, 15, 16 | 14 |
| ____, 11, 12 | 10 |
| ____, 16, 17 | 15 |
| ____, 10, 11 | 9 |
| ____, 18, 19 | 17 |
| ____, 13, 14 | 12 |
| ____, 17, 18 | 16 |
| ____, 10, 11 | 9 |
| ____, 14, 15 | 13 |
| ____, 19, 20 | 18 |
| ____, 11, 12 | 10 |

**# L Skill** Level K-1
Count & write tens & ones

| | |
|---|---|
| ten □ ____ | 11 |
| ten □□ □□ □ ____ | 15 |
| ten □□□ □□ □□ ____ | 17 |
| ten □□ □ ____ | 13 |
| ten □□ □□ ____ | 14 |
| ten □□□ □□□ □□□ ____ | 19 |
| ten □ □ ____ | 12 |
| ten □□ □□ □□ ____ | 16 |

**# M Skill** Level K-1
Add., basic facts thru 5

| | |
|---|---|
| ○○ ○<br>2 + 1 = ____ | 3 |
| ○ ○○○<br>1 + 3 = ____ | 4 |
| ○○ ○○<br>2 + 2 = ____ | 4 |
| ○○○○ ○<br>4 + 1 = ____ | 5 |
| ○○○ ○○<br>3 + 2 = ____ | 5 |
| ○○○ ○<br>3 + 1 = ____ | 4 |
| ○ ○○<br>1 + 2 = ____ | 3 |

**# N Skill** Level K-1
Subt., basic facts thru 5

| | |
|---|---|
| ○○⊗⊗<br>4 - 2 = ____ | 2 |
| ⊗⊗⊗<br>3 - 3 = ____ | 0 |
| ○○○⊗⊗<br>5 - 2 = ____ | 3 |
| ○○○⊗<br>4 - 1 = ____ | 3 |
| ○⊗⊗⊗⊗<br>5 - 4 = ____ | 1 |
| ○⊗⊗<br>3 - 2 = ____ | 1 |
| ○⊗<br>2 - 1 = ____ | 1 |

**# O Skill** Level K-1
Add., basic facts thru 6

| | |
|---|---|
| ○○ ○○○<br>2 + 3 = ____ | 5 |
| ○○○ ○○○<br>3 + 3 = ____ | 6 |
| ○○○○ ○<br>4 + 1 = ____ | 5 |
| ○ ○○○○○<br>1 + 5 = ____ | 6 |
| ○○ ○○<br>2 + 2 = ____ | 4 |
| ○○ ○<br>○○<br>4 + 1 = ____ | 5 |
| ○ ○<br>○○ ○○<br>3 + 3 = ____ | 6 |

**# P Skill** Level K-1
Subt., basic facts thru 6

| | |
|---|---|
| ○○○○⊗⊗<br>6 - 2 = ____ | 4 |
| ○○○○○⊗<br>6 - 1 = ____ | 5 |
| ○⊗⊗⊗⊗⊗<br>6 - 5 = ____ | 1 |
| ○○⊗⊗⊗⊗<br>6 - 4 = ____ | 2 |
| ○○○⊗⊗⊗<br>6 - 3 = ____ | 3 |
| ○○○○⊗⊗<br>6 - 2 = ____ | 4 |
| ⊗⊗⊗⊗⊗⊗<br>6 - 6 = ____ | 0 |

## Level 1 Quick Drills 1-8

**# 1 Skill**
Addition
thru 5

Level 1
Prob. 1
*

| | | | |
|---|---|---|---|
| 0<br>+ 1 | 3<br>+ 0 | 1 | 3 |
| 3<br>+ 2 | 2<br>+ 2 | 5 | 4 |
| 1<br>+ 1 | 0<br>+ 2 | 2 | 2 |
| 0<br>+ 5 | 1<br>+ 4 | 5 | 5 |
| 3<br>+ 1 | 1<br>+ 2 | 4 | 3 |
| 1<br>+ 3 | 2<br>+ 3 | 4 | 5 |

**# 2 Skill**
Addition
thru 5

Level 1
Prob. 6
*

5 + 0 = ___ 5
4 + 0 = ___ 4
2 + 2 = ___ 4
1 + 2 = ___ 3
3 + 1 = ___ 4
4 + 1 = ___ 5
0 + 4 = ___ 4
3 + 0 = ___ 3
3 + 2 = ___ 5
2 + 1 = ___ 3
2 + 3 = ___ 5
0 + 3 = ___ 3
1 + 4 = ___ 5
1 + 1 = ___ 2

**# 3 Skill**
Subtraction
thru 5

Level 1
Prob. 12
*

| | | | |
|---|---|---|---|
| 1<br>- 1 | 2<br>- 1 | 0 | 1 |
| 5<br>- 3 | 4<br>- 0 | 2 | 4 |
| 3<br>- 3 | 2<br>- 0 | 0 | 2 |
| 3<br>- 2 | 3<br>- 0 | 1 | 3 |
| 2<br>- 0 | 4<br>- 1 | 2 | 3 |
| 5<br>- 4 | 4<br>- 1 | 1 | 3 |

**# 4 Skill**
Subtraction
thru 5

Level 1
Prob. 12
*

| | | | |
|---|---|---|---|
| 5<br>- 0 | 4<br>- 4 | 5 | 0 |
| 3<br>- 0 | 2<br>- 2 | 3 | 0 |
| 1<br>- 1 | 5<br>- 4 | 0 | 1 |
| 5<br>- 3 | 1<br>- 1 | 2 | 0 |
| 4<br>- 1 | 5<br>- 2 | 3 | 3 |
| 5<br>- 1 | 4<br>- 3 | 4 | 1 |

**# 5 Skill**
Mixed add. &
subt.
thru 5

Level 1
Review
*

| | | | |
|---|---|---|---|
| 1<br>- 1 | 4<br>+ 1 | 0 | 5 |
| 1<br>+ 0 | 2<br>- 2 | 1 | 0 |
| 3<br>- 3 | 2<br>+ 1 | 0 | 3 |
| 3<br>+ 1 | 1<br>+ 4 | 4 | 5 |
| 1<br>+ 2 | 3<br>- 0 | 3 | 3 |
| 4<br>- 0 | 1<br>+ 1 | 4 | 2 |
| 4<br>- 2 | 2<br>+ 0 | 2 | 2 |

**# 6 Skill**
Subtraction
thru 5

Level 1
Prob. 14
*

4 - 4 = ___ 0
4 - 2 = ___ 2
3 - 3 = ___ 0
4 - 0 = ___ 4
4 - 3 = ___ 1
5 - 3 = ___ 2
3 - 0 = ___ 3
5 - 4 = ___ 1
3 - 2 = ___ 1
2 - 0 = ___ 2
2 - 2 = ___ 0
5 - 1 = ___ 4
4 - 1 = ___ 3
3 - 1 = ___ 2
2 - 1 = ___ 1
1 - 1 = ___ 0

**# 7 Skill**
Add. thru 5,
2nd addend
missing

Level 1
Prob. 8
*

3 + ___ = 5 2
1 + ___ = 2 1
1 + ___ = 4 3
3 + ___ = 3 0
1 + ___ = 3 2
2 + ___ = 3 1
0 + ___ = 2 2
2 + ___ = 5 3
2 + ___ = 2 0
1 + ___ = 5 4
2 + ___ = 3 1
4 + ___ = 4 0
5 + ___ = 5 0
0 + ___ = 4 4

**# 8 Skill**
Add.thru 5,
1st addend
missing

Level 1
**
*

___ + 2 = 5 3
___ + 1 = 2 1
___ + 0 = 2 2
___ + 0 = 3 3
___ + 2 = 3 1
___ + 2 = 4 2
___ + 2 = 2 0
___ + 3 = 5 2
___ + 3 = 4 1
___ + 4 = 4 0
___ + 4 = 5 1
___ + 1 = 3 2
___ + 0 = 4 4
___ + 0 = 5 5

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## Level 1 Quick Drills 9-16

# 9 Skill
Subt. thru 5,
1st addend
missing

Level 1
Prob. 16
*

| | |
|---|---|
| 4 - ___ = 4 | 0 |
| 1 - ___ = 0 | 1 |
| 2 - ___ = 1 | 1 |
| 3 - ___ = 0 | 3 |
| 3 - ___ = 2 | 1 |
| 4 - ___ = 2 | 2 |
| 4 - ___ = 4 | 0 |
| 4 - ___ = 1 | 3 |
| 5 - ___ = 2 | 3 |
| 3 - ___ = 3 | 0 |
| 5 - ___ = 1 | 4 |
| 3 - ___ = 1 | 2 |
| 2 - ___ = 1 | 1 |
| 1 - ___ = 0 | 1 |

# 10 Skill
Subt.thru 5,
sum
missing

Level 1
**
*

| | |
|---|---|
| ___ - 4 = 0 | 4 |
| ___ - 2 = 2 | 4 |
| ___ - 1 = 0 | 1 |
| ___ - 1 = 1 | 2 |
| ___ - 1 = 2 | 3 |
| ___ - 1 = 3 | 4 |
| ___ - 3 = 0 | 3 |
| ___ - 0 = 4 | 4 |
| ___ - 3 = 1 | 4 |
| ___ - 3 = 2 | 5 |
| ___ - 0 = 3 | 3 |
| ___ - 4 = 1 | 5 |
| ___ - 2 = 1 | 3 |
| ___ - 0 = 2 | 2 |

# 11 Skill
Column add.,
1-digit addends

Level 1
Prob. 5
K.K. 6

| | | | |
|---|---|---|---|
| 1<br>5<br>+2 | 1<br>5<br>+1 | 8 | 7 |
| 3<br>1<br>+1 | 4<br>2<br>+1 | 5 | 7 |
| 4<br>4<br>+1 | 1<br>2<br>+2 | 9 | 5 |
| 1<br>1<br>+5 | 4<br>2<br>+2 | 7 | 8 |
| 5<br>2<br>+2 | 2<br>4<br>+1 | 9 | 7 |
| 1<br>2<br>+6 | 5<br>1<br>+2 | 9 | 8 |

# 12 Skill
Add. thru 6

Level 1
Prob. 1
*

| | | | |
|---|---|---|---|
| 1<br>1 | 3<br>+1 | 2 | 4 |
| 4<br>+2 | 2<br>+3 | 6 | 5 |
| 3<br>+2 | 2<br>+4 | 5 | 6 |
| 3<br>+3 | 1<br>+2 | 6 | 3 |
| 4<br>+0 | 5<br>+1 | 4 | 6 |
| 6<br>+0 | 1<br>+4 | 6 | 5 |
| 2<br>+2 | 1<br>+2 | 4 | 3 |

# 13 Skill
Subtraction
thru 6

Level 1
Prob. 12
*

| | | | |
|---|---|---|---|
| 6<br>-5 | 6<br>-6 | 1 | 0 |
| 3<br>-3 | 6<br>-0 | 0 | 6 |
| 4<br>-3 | 6<br>-4 | 1 | 2 |
| 6<br>-1 | 5<br>-3 | 5 | 2 |
| 4<br>-4 | 5<br>-4 | 0 | 1 |
| 6<br>-3 | 4<br>-1 | 3 | 3 |
| 5<br>-5 | 4<br>-2 | 0 | 2 |

# 14 Skill
Mixed subt.
& add.
thru 6

Level 1
Review
*

| | | | |
|---|---|---|---|
| 4<br>-3 | 6<br>-4 | 1 | 2 |
| 6<br>-6 | 0<br>+6 | 0 | 6 |
| 3<br>-3 | 6<br>-5 | 0 | 1 |
| 6<br>-1 | 3<br>+0 | 5 | 3 |
| 2<br>+3 | 3<br>+3 | 5 | 6 |
| 5<br>+1 | 4<br>-4 | 6 | 0 |
| 4<br>-1 | 5<br>+1 | 3 | 6 |

# 15 Skill
Addition
thru 7

Level 1
Prob. 6
*

| | |
|---|---|
| 0 + 7 = ___ | 7 |
| 1 + 5 = ___ | 6 |
| 3 + 4 = ___ | 7 |
| 1 + 3 = ___ | 4 |
| 3 + 3 = ___ | 6 |
| 2 + 5 = ___ | 7 |
| 3 + 2 = ___ | 5 |
| 4 + 3 = ___ | 7 |
| 6 + 0 = ___ | 6 |
| 5 + 2 = ___ | 7 |
| 6 + 1 = ___ | 7 |
| 5 + 0 = ___ | 5 |
| 1 + 4 = ___ | 5 |
| 7 + 0 = ___ | 7 |
| 3 + 1 = ___ | 4 |
| 2 + 0 = ___ | 2 |

# 16 Skill
Subtraction
thru 7

Level 1
Prob. 14
*

| | |
|---|---|
| 3 - 0 = ___ | 3 |
| 7 - 3 = ___ | 4 |
| 4 - 4 = ___ | 0 |
| 5 - 4 = ___ | 1 |
| 2 - 1 = ___ | 1 |
| 4 - 2 = ___ | 2 |
| 5 - 3 = ___ | 2 |
| 7 - 6 = ___ | 1 |
| 7 - 0 = ___ | 7 |
| 6 - 3 = ___ | 3 |
| 7 - 1 = ___ | 6 |
| 7 - 5 = ___ | 2 |
| 6 - 6 = ___ | 0 |
| 7 - 4 = ___ | 3 |
| 7 - 3 = ___ | 4 |
| 7 - 2 = ___ | 5 |

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Level 1 Quick Drills 17-24

**# 17 Skill**
Addition
thru 8

Level 1
Prob. 1
*

| | | | |
|---|---|---|---|
| 3<br>+ 4 | 0<br>+ 8 | 7 | 8 |
| 3<br>+ 2 | 6<br>+ 1 | 5 | 7 |
| 1<br>+ 7 | 1<br>+ 3 | 8 | 4 |
| 0<br>+ 7 | 4<br>+ 4 | 7 | 8 |
| 2<br>+ 5 | 2<br>+ 6 | 7 | 8 |
| 3<br>+ 5 | 5<br>+ 1 | 8 | 6 |
| 8<br>+ 0 | 5<br>+ 3 | 8 | 8 |

**# 18 Skill**
Subtraction
thru 8

Level 1
Prob. 12
*

| | | | |
|---|---|---|---|
| 5<br>- 4 | 8<br>- 4 | 1 | 4 |
| 7<br>- 6 | 5<br>- 5 | 1 | 0 |
| 8<br>- 5 | 8<br>- 3 | 3 | 5 |
| 6<br>- 4 | 8<br>- 6 | 2 | 2 |
| 7<br>- 7 | 8<br>- 2 | 0 | 6 |
| 8<br>- 7 | 8<br>- 1 | 1 | 7 |
| 3<br>- 2 | 8<br>- 8 | 1 | 0 |

**# 19 Skill**
Addition
thru 9

Level 1
Prob. 1
K.K.1

| | | | |
|---|---|---|---|
| 6<br>+ 3 | 0<br>+ 9 | 9 | 9 |
| 3<br>+ 4 | 9<br>+ 0 | 7 | 9 |
| 1<br>+ 8 | 7<br>+ 2 | 9 | 9 |
| 8<br>+ 1 | 5<br>+ 1 | 9 | 6 |
| 7<br>+ 1 | 2<br>+ 7 | 8 | 9 |
| 3<br>+ 6 | 4<br>+ 2 | 9 | 6 |
| 4<br>+ 3 | 4<br>+ 5 | 7 | 9 |

**# 20 Skill**
Subtraction
thru 9

Level
Prob.
K.K. 29

| | | | |
|---|---|---|---|
| 5<br>- 4 | 9<br>- 6 | 1 | 3 |
| 9<br>- 5 | 9<br>- 7 | 4 | 2 |
| 8<br>- 3 | 7<br>- 5 | 5 | 2 |
| 9<br>- 8 | 6<br>- 5 | 1 | 1 |
| 9<br>- 9 | 9<br>- 0 | 0 | 9 |
| 8<br>- 8 | 9<br>- 1 | 0 | 8 |
| 9<br>- 4 | 9<br>- 2 | 5 | 7 |

**# 21 Skill**
Mixed subt.
& add.
thru 9

Level 1
Review
*

| | | | |
|---|---|---|---|
| 9<br>- 7 | 2<br>+ 7 | 2 | 9 |
| 3<br>+ 6 | 5<br>- 4 | 9 | 1 |
| 8<br>- 3 | 6<br>+ 3 | 5 | 9 |
| 9<br>- 9 | 0<br>+ 9 | 0 | 9 |
| 4<br>+ 3 | 9<br>- 1 | 7 | 8 |
| 9<br>- 4 | 4<br>+ 2 | 5 | 6 |
| 9<br>- 3 | 4<br>+ 5 | 6 | 9 |

**# 22 Skill**
Addition
thru 10

Level 1
Prob. 2
K.K. 2

| | | | |
|---|---|---|---|
| 4<br>+ 4 | 5<br>+ 5 | 8 | 10 |
| 3<br>+ 5 | 6<br>+ 4 | 8 | 10 |
| 7<br>+ 2 | 6<br>+ 0 | 9 | 6 |
| 5<br>+ 1 | 4<br>+ 6 | 6 | 10 |
| 1<br>+ 9 | 7<br>+ 3 | 10 | 10 |
| 2<br>+ 8 | 5<br>+ 2 | 10 | 7 |
| 8<br>+ 2 | 5<br>+ 4 | 10 | 9 |

**# 23 Skill**
Subtraction
thru 10

Level 1
Prob. 13
K.K. 30

| | | | |
|---|---|---|---|
| 10<br>- 1 | 10<br>- 9 | 9 | 1 |
| 10<br>- 3 | 10<br>- 2 | 7 | 8 |
| 9<br>- 8 | 8<br>- 7 | 1 | 1 |
| 9<br>- 9 | 10<br>- 8 | 0 | 2 |
| 10<br>- 7 | 8<br>- 6 | 3 | 2 |
| 7<br>- 4 | 10<br>- 6 | 3 | 4 |
| 10<br>- 4 | 6<br>- 2 | 6 | 4 |

**# 24 Skill**
Addition
thru 10

Level 1
Prob. 6
*

| | |
|---|---|
| 6 + 3 = ___ | 9 |
| 4 + 2 = ___ | 6 |
| 3 + 3 = ___ | 6 |
| 4 + 5 = ___ | 9 |
| 6 + 2 = ___ | 8 |
| 1 + 7 = ___ | 8 |
| 0 + 9 = ___ | 9 |
| 3 + 4 = ___ | 7 |
| 2 + 8 = ___ | 10 |
| 7 + 1 = ___ | 8 |
| 2 + 4 = ___ | 6 |
| 7 + 3 = ___ | 10 |
| 7 + 2 = ___ | 9 |
| 0 + 6 = ___ | 6 |
| 5 + 2 = ___ | 7 |
| 2 + 7 = ___ | 9 |
| 5 + 1 = ___ | 6 |
| 4 + 4 = ___ | 8 |

## Level 1 Quick Drills 25-32

### # 25 Skill Subtraction thru 10

Level 1 Prob. 14 *

6 - 0 = ___ 6
9 - 1 = ___ 8
8 - 2 = ___ 6
8 - 3 = ___ 5
10 - 4 = ___ 6
10 - 9 = ___ 1
9 - 9 = ___ 0
8 - 7 = ___ 1
7 - 6 = ___ 1
6 - 5 = ___ 1
6 - 4 = ___ 2
9 - 3 = ___ 6
9 - 2 = ___ 7
7 - 1 = ___ 6
6 - 1 = ___ 5
7 - 2 = ___ 5
8 - 4 = ___ 4

### # 26 Skill Addition thru 11

Level 1 Prob. 3 K.K. 3

| | | | |
|---|---|---|---|
| 6<br>+3 | 9<br>+2 | 9 | 11 |
| 0<br>+8 | 4<br>+4 | 8 | 8 |
| 2<br>+6 | 8<br>+3 | 8 | 11 |
| 6<br>+1 | 7<br>+4 | 7 | 11 |
| 2<br>+7 | 5<br>+1 | 9 | 6 |
| 5<br>+3 | 6<br>+5 | 8 | 11 |
| 5<br>+6 | 9<br>+0 | 11 | 9 |

### # 27 Skill Subtraction thru 11

Level 1 Prob. 17 K.K. 31

| | | | |
|---|---|---|---|
| 7<br>- 0 | 11<br>- 9 | 7 | 2 |
| 9<br>- 3 | 8<br>- 7 | 6 | 1 |
| 11<br>- 2 | 11<br>- 8 | 9 | 3 |
| 11<br>- 3 | 10<br>- 5 | 8 | 5 |
| 9<br>- 4 | 11<br>- 7 | 5 | 4 |
| 9<br>- 2 | 7<br>- 2 | 7 | 5 |
| 11<br>- 6 | 8<br>- 3 | 5 | 5 |

### # 28 Skill Addition thru 12

Level 1 Prob. 4 K.K. 4

| | | | |
|---|---|---|---|
| 3<br>+9 | 5<br>+2 | 12 | 7 |
| 4<br>+5 | 7<br>+1 | 9 | 8 |
| 2<br>+6 | 4<br>+8 | 8 | 12 |
| 8<br>+1 | 5<br>+7 | 9 | 12 |
| 6<br>+4 | 6<br>+5 | 10 | 11 |
| 4<br>+7 | 1<br>+9 | 11 | 10 |
| 7<br>+3 | 7<br>+4 | 10 | 11 |

### # 29 Skill Subtraction thru 12

Level 1 Prob. 18 K.K. 32

| | | | |
|---|---|---|---|
| 12<br>- 3 | 8<br>- 0 | 9 | 8 |
| 9<br>- 5 | 10<br>- 3 | 4 | 7 |
| 8<br>- 7 | 12<br>- 9 | 1 | 3 |
| 8<br>- 3 | 11<br>- 9 | 5 | 2 |
| 12<br>- 8 | 10<br>- 8 | 4 | 2 |
| 8<br>- 8 | 12<br>- 6 | 0 | 6 |
| 8<br>- 6 | 12<br>- 7 | 2 | 5 |

### # 30 Skill Mixed add. & subt. thru 12

Level 1 Review *

8 - 0 = ___ 8
3 + 9 = ___ 12
7 + 1 = ___ 8
9 - 5 = ___ 4
9 + 2 = ___ 11
8 - 7 = ___ 1
6 + 5 = ___ 11
7 + 3 = ___ 10
12 - 8 = ___ 4
7 + 4 = ___ 11
5 + 7 = ___ 12
8 + 3 = ___ 11
12 - 6 = ___ 6
9 - 8 = ___ 1
8 - 8 = ___ 0
9 + 3 = ___ 12
5 + 5 = ___ 10
9 - 1 = ___ 8

### # 31 Skill Add. thru 12, 2nd addend missing

Level 1 Prob. 8 K.K. 112

9 + ___ = 10 1
3 + ___ = 10 7
5 + ___ = 9 4
7 + ___ = 12 5
8 + ___ = 10 2
1 + ___ = 10 9
2 + ___ = 10 8
7 + ___ = 11 4
4 + ___ = 10 6
5 + ___ = 12 7
6 + ___ = 12 6
7 + ___ = 9 2
3 + ___ = 8 5
6 + ___ = 10 4
4 + ___ = 12 8
5 + ___ = 10 5

### # 32 Skill Add. thru 12, 1st addend missing

Level 1 ** K.K. 113

___ + 2 = 10 8
___ + 8 = 12 4
___ + 3 = 10 7
___ + 6 = 9 3
___ + 4 = 12 8
___ + 7 = 9 2
___ + 4 = 11 7
___ + 5 = 12 7
___ + 3 = 9 6
___ + 4 = 12 8
___ + 3 = 11 8
___ + 6 = 12 6
___ + 1 = 10 9
___ + 9 = 12 3
___ + 3 = 12 9

## Level 1 Quick Drills 33-40

**# 33 Skill** Subt. thru 12, 1st addend missing — Level 1 Prob. 16 K.K. 119

| | |
|---|---|
| 12 - ___ = 4 | 8 |
| 12 - ___ = 6 | 6 |
| 10 - ___ = 7 | 3 |
| 10 - ___ = 2 | 8 |
| 12 - ___ = 5 | 7 |
| 11 - ___ = 5 | 6 |
| 9 - ___ = 6 | 3 |
| 11 - ___ = 6 | 5 |
| 10 - ___ = 6 | 4 |
| 9 - ___ = 4 | 5 |
| 11 - ___ = 3 | 8 |
| 9 - ___ = 1 | 8 |
| 12 - ___ = 3 | 9 |
| 11 - ___ = 7 | 4 |
| 9 - ___ = 2 | 7 |
| 9 - ___ = 0 | 9 |

**# 34 Skill** Subt. thru 12, sum missing — Level 1 ** K.K. 120

| | |
|---|---|
| ___ - 9 = 1 | 10 |
| ___ - 4 = 8 | 12 |
| ___ - 1 = 8 | 9 |
| ___ - 1 = 9 | 10 |
| ___ - 4 = 7 | 11 |
| ___ - 4 = 5 | 9 |
| ___ - 5 = 7 | 12 |
| ___ - 8 = 3 | 11 |
| ___ - 7 = 5 | 12 |
| ___ - 8 = 1 | 9 |
| ___ - 3 = 8 | 11 |
| ___ - 8 = 0 | 8 |
| ___ - 2 = 8 | 10 |
| ___ - 6 = 6 | 12 |
| ___ - 9 = 0 | 9 |
| ___ - 5 = 6 | 11 |

**# 35 Skill** Add., 2-digit addends, multiples of ten — Level 1 Prob. 10 K.K. 8

| | |
|---|---|
| 10 + 0 = ___ | 10 |
| 20 + 10 = ___ | 30 |
| 10 + 80 = ___ | 90 |
| 20 + 80 = ___ | 100 |
| 10 + 40 = ___ | 50 |
| 20 + 20 = ___ | 40 |
| 10 + 50 = ___ | 60 |
| 10 + 90 = ___ | 100 |
| 10 + 10 = ___ | 20 |
| 20 + 30 = ___ | 50 |
| 10 + 60 = ___ | 70 |
| 20 + 40 = ___ | 60 |
| 10 + 20 = ___ | 30 |
| 20 + 50 = ___ | 70 |
| 10 + 70 = ___ | 80 |
| 10 + 30 = ___ | 40 |

**# 36 Skill** Add., 2-digit & 1-digit, no renaming — Leve Prob *

| | |
|---|---|
| 11 + 7 = ___ | 18 |
| 12 + 4 = ___ | 16 |
| 15 + 2 = ___ | 17 |
| 16 + 3 = ___ | 19 |
| 12 + 3 = ___ | 15 |
| 10 + 8 = ___ | 18 |
| 14 + 2 = ___ | 16 |
| 13 + 4 = ___ | 17 |
| 11 + 4 = ___ | 15 |
| 10 + 2 = ___ | 12 |
| 13 + 5 = ___ | 18 |
| 14 + 3 = ___ | 17 |
| 15 + 4 = ___ | 19 |
| 16 + 2 = ___ | 18 |

**# 37 Skill** Add., 1-& 2-digit addends, no renaming — Level 1 Prob. 9 K.K. 7

| | | | |
|---|---|---|---|
| 38<br>+ 1 | 91<br>+ 2 | 39 | 93 |
| 50<br>+ 6 | 43<br>+ 6 | 56 | 49 |
| 92<br>+ 4 | 74<br>+ 3 | 96 | 77 |
| 62<br>+ 3 | 31<br>+ 5 | 65 | 36 |
| 43<br>+ 4 | 51<br>+ 4 | 47 | 55 |
| 73<br>+ 1 | 62<br>+ 7 | 74 | 69 |
| 85<br>+ 4 | 64<br>+ 2 | 89 | 66 |

**# 38 Skill** Subt., 1-digit from 2-digit, no renaming — Level 1 Prob. 19 K.K. 34

| | | | |
|---|---|---|---|
| 27<br>- 4 | 86<br>- 5 | 23 | 81 |
| 59<br>- 8 | 35<br>- 2 | 51 | 33 |
| 48<br>- 6 | 57<br>- 3 | 42 | 54 |
| 95<br>- 5 | 87<br>- 3 | 90 | 84 |
| 22<br>- 1 | 78<br>- 6 | 21 | 72 |
| 57<br>- 5 | 64<br>- 2 | 52 | 62 |
| 38<br>- 7 | 85<br>- 3 | 31 | 82 |

**#39 Skill** Add., 2-digit addends, no renaming — Level 1 Prob. 11 *

| | | | |
|---|---|---|---|
| 51<br>+23 | 42<br>+15 | 74 | 57 |
| 26<br>+12 | 13<br>+32 | 38 | 45 |
| 13<br>+41 | 16<br>+31 | 54 | 47 |
| 11<br>+24 | 16<br>+13 | 35 | 29 |
| 34<br>+32 | 12<br>+16 | 66 | 28 |
| 15<br>+61 | 23<br>+62 | 76 | 85 |

**#40 Skill** Subt., 2-digit from 2-digit, no renaming — Level 1 Prob. 20 K.K. 35

| | | | |
|---|---|---|---|
| 75<br>-21 | 98<br>-35 | 54 | 63 |
| 87<br>-53 | 42<br>-31 | 34 | 11 |
| 74<br>-13 | 94<br>-63 | 61 | 31 |
| 59<br>-45 | 34<br>-12 | 14 | 22 |
| 95<br>-24 | 64<br>-21 | 71 | 43 |

## Level 2 Quick Drills 41-48

**# 41 Skill**
Addition
thru 13

Level 2
Prob. 7
*

9 + 1 = ___ 10
4 + 9 = ___ 13
4 + 6 = ___ 10
2 + 8 = ___ 10
5 + 6 = ___ 11
4 + 4 = ___ 8
6 + 6 = ___ 12
5 + 8 = ___ 13
9 + 2 = ___ 11
6 + 7 = ___ 13
8 + 4 = ___ 12
3 + 9 = ___ 12
2 + 9 = ___ 11
7 + 6 = ___ 13
8 + 5 = ___ 13
7 + 4 = ___ 11
3 + 8 = ___ 11
9 + 3 = ___ 12

**# 42 Skill**
Subtraction
thru 13

Level 2
Prob. 10
*

12 - 3 = ___ 9
7 - 4 = ___ 3
11 - 2 = ___ 9
13 - 5 = ___ 8
9 - 8 = ___ 1
12 - 7 = ___ 5
9 - 6 = ___ 3
10 - 9 = ___ 1
13 - 7 = ___ 6
8 - 1 = ___ 7
9 - 7 = ___ 2
13 - 6 = ___ 7
13 - 8 = ___ 5
10 - 4 = ___ 6
12 - 8 = ___ 4
11 - 7 = ___ 4
9 - 9 = ___ 0
13 - 9 = ___ 4

**# 43 Skill**
Mixed add.
& subt.
thru 13

Level 2
Review
*

4 + 9 = ___ 13
12 - 3 = ___ 9
13 - 9 = ___ 4
9 + 3 = ___ 12
12 - 7 = ___ 5
4 + 6 = ___ 10
4 + 4 = ___ 8
5 + 8 = ___ 13
10 - 4 = ___ 6
12 - 8 = ___ 4
2 + 9 = ___ 11
10 - 9 = ___ 1
13 - 7 = ___ 6
12 - 8 = ___ 4
6 + 7 = ___ 13
3 + 9 = ___ 12
6 + 6 = ___ 12
13 - 9 = ___ 4

**# 44 Skill**
Addition
thru 15

Level 2
Prob. 7
*

5 + 9 = ___ 14
3 + 9 = ___ 12
5 + 6 = ___ 11
6 + 6 = ___ 12
7 + 8 = ___ 15
6 + 8 = ___ 14
4 + 9 = ___ 13
7 + 7 = ___ 14
7 + 4 = ___ 11
6 + 9 = ___ 15
3 + 8 = ___ 11
8 + 6 = ___ 14
8 + 5 = ___ 13
8 + 7 = ___ 15
4 + 8 = ___ 12
9 + 5 = ___ 14
9 + 2 = ___ 11
9 + 6 = ___ 15
7 + 6 = ___ 13
9 + 4 = ___ 13

**# 45 Skill**
Subtraction
thru 15

Level 2
Prob. 10
*

14 - 5 = ___ 9
12 - 3 = ___ 9
13 - 8 = ___ 5
14 - 9 = ___ 5
10 - 9 = ___ 1
12 - 9 = ___ 3
13 - 6 = ___ 7
15 - 9 = ___ 6
10 - 4 = ___ 6
9 - 6 = ___ 3
15 - 8 = ___ 7
14 - 8 = ___ 6
13 - 7 = ___ 6
12 - 5 = ___ 7
14 - 7 = ___ 7
15 - 7 = ___ 8
11 - 4 = ___ 7
14 - 6 = ___ 8
13 - 4 = ___ 9
15 - 6 = ___ 9

**# 46 Skill**
Addition
thru 15

Level 2
Prob. 1
*

| | | | |
|---|---|---|---|
| 1<br>+9 | 9<br>+6 | 10 | 15 |
| 2<br>+9 | 9<br>+6 | 11 | 15 |
| 4<br>+9 | 8<br>+5 | 13 | 13 |
| 5<br>+9 | 9<br>+3 | 14 | 12 |
| 3<br>+8 | 7<br>+5 | 11 | 12 |
| 6<br>+6 | 8<br>+6 | 12 | 14 |
| 7<br>+8 | 4<br>+6 | 15 | 10 |
| 5<br>+8 | 7<br>+3 | 13 | 10 |

**# 47 Skill**
Subtraction
thru 15

Level 2
Prob. 14
*

| | | | |
|---|---|---|---|
| 15<br>- 9 | 14<br>- 9 | 6 | 5 |
| 13<br>- 5 | 13<br>- 8 | 8 | 5 |
| 12<br>- 9 | 11<br>- 9 | 3 | 2 |
| 10<br>- 9 | 10<br>- 3 | 1 | 7 |
| 9<br>- 6 | 9<br>- 8 | 3 | 1 |
| 15<br>- 8 | 13<br>- 7 | 7 | 6 |
| 12<br>- 8 | 12<br>- 5 | 4 | 7 |
| 11<br>- 3 | 11<br>- 7 | 8 | 4 |

**# 48 Skill**
Mixed add. &
subt. thru 15

Level 2
Review
*

| | | | |
|---|---|---|---|
| 6<br>+8 | 13<br>- 5 | 14 | 8 |
| 10<br>- 8 | 8<br>+4 | 2 | 12 |
| 5<br>+8 | 10<br>- 6 | 13 | 4 |
| 7<br>+8 | 12<br>- 8 | 15 | 4 |
| 15<br>- 8 | 6<br>+6 | 7 | 12 |
| 9<br>- 8 | 3<br>+8 | 1 | 11 |
| 10<br>- 3 | 9<br>+3 | 7 | 12 |
| 8<br>+5 | 10<br>- 9 | 13 | 1 |

## Level 2 Quick Drills 49-56

# 49 Skill
Addition
thru 18

Level 2
Prob. 7
K.K. 114

6 + 9 = __ 15
9 + 7 = __ 16
8 + 8 = __ 16
7 + 8 = __ 15
9 + 5 = __ 14
9 + 8 = __ 17
8 + 9 = __ 17
8 + 7 = __ 15
7 + 3 = __ 10
5 + 9 = __ 14
9 + 9 = __ 18
7 + 9 = __ 16
8 + 6 = __ 14
6 + 8 = __ 14
4 + 8 = __ 12
7 + 6 = __ 13
6 + 6 = __ 12
9 + 6 = __ 15
7 + 7 = __ 14
8 + 5 = __ 13

# 50 Skill
Subtraction
thru 18

Level 2
Prob. 10
K.K. 121

16 - 8 = __ 8
9 - 0 = __ 9
9 - 6 = __ 3
16 - 7 = __ 9
9 - 7 = __ 2
18 - 9 = __ 9
15 - 6 = __ 9
10 - 5 = __ 5
10 - 7 = __ 3
17 - 9 = __ 8
15 - 8 = __ 7
13 - 7 = __ 6
11 - 9 = __ 2
17 - 8 = __ 9
15 - 7 = __ 8
11 - 6 = __ 5
16 - 9 = __ 7
14 - 8 = __ 6
12 - 7 = __ 5
15 - 9 = __ 6

# 51 Skill
Mixed
add. & subt.
thru 18

Level 2
Review
K.K. 114
& 121

16 - 9 = __ 7
6 + 8 = __ 14
16 - 7 = __ 9
8 + 8 = __ 16
9 + 5 = __ 14
16 - 8 = __ 8
7 + 9 = __ 16
7 + 8 = __ 15
17 - 8 = __ 9
9 + 8 = __ 17
15 - 8 = __ 7
9 + 7 = __ 16
8 + 7 = __ 15
18 - 9 = __ 9
6 + 9 = __ 15
15 - 6 = __ 9
8 + 9 = __ 17
17 - 9 = __ 8
9 + 9 = __ 18
13 - 4 = __ 9

# 52 Skill
Addition
thru 18

Level
Prob.
K.K. 5

8 2
+5 +9 13 11

6 8
+4 +3 10 11

7 5
+6 +5 13 10

8 8
+4 +6 12 14

6 7
+9 +9 15 16

7 8
+7 +8 14 16

8 9
+9 +9 17 18

5 5
+9 +7 14 12

# 53 Skill
Subtraction
thru 18

Level 2
Prob.13 & 14
K.K. 33

11 10
-8 -6 3 4

9 10
-8 -5 1 5

12 14
-8 -5 4 9

10 10
-1 -6 9 4

13 15
-4 -9 9 6

14 16
-8 -8 6 8

18 13
-9 -8 9 5

17 15
-8 -7 9 8

# 54 Skill
Add. thru 18,
2nd addend
missing

Level 2
Prob. 8
K.K. 112

9 + __ = 16 7
8 + __ = 17 9
8 + __ = 13 5
5 + __ = 14 9
9 + __ = 13 4
6 + __ = 11 5
7 + __ = 16 9
6 + __ = 15 9
7 + __ = 13 6
7 + __ = 15 8
9 + __ = 18 9
7 + __ = 14 7
7 + __ = 12 5
6 + __ = 15 9
8 + __ = 15 7
9 + __ = 17 8
8 + __ = 12 4
9 + __ = 14 5
4 + __ = 13 9
8 + __ = 16 8

# 55 Skill
Add. thru 18,
1st addend
missing

Level 2
Prob. 9
K.K. 113

__ + 9 = 15 6
__ + 7 = 14 7
__ + 9 = 18 9
__ + 8 = 14 6
__ + 8 = 15 7
__ + 8 = 11 3
__ + 7 = 16 9
__ + 6 = 12 6
__ + 6 = 14 8
__ + 5 = 14 9
__ + 6 = 13 7
__ + 8 = 16 8
__ + 7 = 12 5
__ + 9 = 14 5
__ + 9 = 16 7
__ + 5 = 11 6
__ + 4 = 13 9
__ + 5 = 13 8
__ + 6 = 15 9
__ + 7 = 15 8

# 56 Skill
Subt.thru 18,
1st addend
missing

Level 2
Prob. 11
K.K. 119

18 - __ = 9 9
14 - __ = 9 5
13 - __ = 9 4
15 - __ = 6 9
13 - __ = 5 8
15 - __ = 8 7
14 - __ = 7 7
17 - __ = 8 9
14 - __ = 5 9
13 - __ = 4 9
15 - __ = 7 8
12 - __ = 8 4
17 - __ = 9 8
12 - __ = 3 9
14 - __ = 8 6
15 - __ = 6 9
12 - __ = 7 5
16 - __ = 9 7

## Level 2 Quick Drills 57-64

**# 57 Skill** Level 2
Subt. thru 18, Prob. 12
sum K.K. 120
missing

| | |
|---|---|
| ___ - 4 = 9 | 13 |
| ___ - 5 = 9 | 14 |
| ___ - 7 = 9 | 16 |
| ___ - 7 = 7 | 14 |
| ___ - 8 = 5 | 13 |
| ___ - 8 = 7 | 15 |
| ___ - 7 = 8 | 15 |
| ___ - 8 = 9 | 17 |
| ___ - 6 = 7 | 13 |
| ___ - 9 = 7 | 16 |
| ___ - 4 = 8 | 12 |
| ___ - 9 = 4 | 13 |
| ___ - 9 = 9 | 18 |
| ___ - 9 = 3 | 12 |
| ___ - 4 = 7 | 11 |
| ___ - 3 = 9 | 12 |
| ___ - 9 = 8 | 17 |
| ___ - 5 = 8 | 13 |

**# 58 Skill** Level 2
Column add., Review
1-digit K.K. 6
addends

| | | | |
|---|---|---|---|
| 8 | 3 | | |
| 1 | 4 | | |
| +5 | +5 | 14 | 12 |
| 5 | 5 | | |
| 2 | 1 | | |
| +5 | +5 | 12 | 11 |
| 3 | 3 | | |
| 3 | 2 | | |
| +6 | +3 | 12 | 8 |
| 6 | 7 | | |
| 2 | 1 | | |
| +7 | +8 | 15 | 16 |
| 2 | 7 | | |
| 6 | 2 | | |
| +3 | +4 | 11 | 13 |
| 5 | 5 | | |
| 3 | 4 | | |
| +6 | +2 | 14 | 11 |

**# 59 Skill** Level 2
Column add., **
2-digit, *
no renaming

| | | | |
|---|---|---|---|
| 21 | 16 | | |
| 32 | 31 | | |
| +15 | +10 | 68 | 57 |
| 34 | 22 | | |
| 20 | 32 | | |
| +15 | +42 | 69 | 96 |
| 14 | 15 | | |
| 61 | 23 | | |
| +10 | +50 | 85 | 88 |
| 3 | 20 | | |
| 81 | 52 | | |
| 5 | 15 | | |
| +10 | +11 | 99 | 98 |

**# 60 Skill** Level 2
Mult. facts, Prob. 21
2's only K.K. 54

| | | | |
|---|---|---|---|
| 2 | 0 | | |
| x 7 | x 2 | 14 | 0 |
| 9 | 8 | | |
| x 2 | x 2 | 18 | 16 |
| 2 | 7 | | |
| x 1 | x 2 | 2 | 14 |
| 6 | 2 | | |
| x 2 | x 2 | 12 | 4 |
| 0 | 2 | | |
| x 2 | x 3 | 0 | 6 |
| 4 | 5 | | |
| x 2 | x 2 | 8 | 10 |
| 8 | 4 | | |
| x 2 | x 2 | 16 | 8 |
| 2 | 7 | | |
| x 5 | x 2 | 10 | 14 |
| 9 | 2 | | |
| x 2 | x 2 | 18 | 4 |

**#61 Skill** Level 2
Add., 3-digit Prob. 5
addends, no K.K. 12
renaming

| | | |
|---|---|---|
| 312<br>+456 | | 768 |
| | 214<br>+322 | 536 |
| 603<br>+212 | | 815 |
| | 521<br>+163 | 684 |
| 405<br>+183 | | 588 |
| | 123<br>+241 | 364 |
| 252<br>+113 | | 365 |

**# 62 Skill** Level 2
Mult. facts, Prob. 23
5's only K.K. 55

| | | | |
|---|---|---|---|
| 0 | 5 | | |
| x 5 | x 5 | 0 | 25 |
| 3 | 5 | | |
| x 5 | x 9 | 15 | 45 |
| 4 | 7 | | |
| x 5 | x 5 | 20 | 35 |
| 5 | 0 | | |
| x 2 | x 5 | 10 | 0 |
| 8 | 6 | | |
| x 5 | x 5 | 40 | 30 |
| 1 | 5 | | |
| x 5 | x 3 | 5 | 15 |
| 9 | 7 | | |
| x 5 | x 5 | 45 | 35 |
| 5 | 4 | | |
| x 6 | x 5 | 30 | 20 |
| 5 | 5 | | |
| x 5 | x 2 | 25 | 10 |

**# 63 Skill** Level 2
Mult. facts, Prob. 23
5's only K.K. 55

| | |
|---|---|
| 5 x 4 = ___ | 20 |
| 5 x 0 = ___ | 0 |
| 9 x 5 = ___ | 45 |
| 5 x 8 = ___ | 40 |
| 5 x 3 = ___ | 15 |
| 5 x 7 = ___ | 35 |
| 5 x 5 = ___ | 25 |
| 5 x 9 = ___ | 45 |
| 1 x 5 = ___ | 5 |
| 5 x 6 = ___ | 30 |
| 5 x 2 = ___ | 10 |
| 5 x 0 = ___ | 0 |
| 6 x 5 = ___ | 30 |
| 5 x 3 = ___ | 15 |
| 5 x 7 = ___ | 35 |
| 5 x 1 = ___ | 5 |
| 4 x 5 = ___ | 20 |
| 5 x 8 = ___ | 40 |
| 5 x 5 = ___ | 25 |
| 5 x 2 = ___ | 10 |

**#64 Skill** Level 2
Add., 3-digit Prob. 6
addends, K.K. 13
renaming

| | | |
|---|---|---|
| 443<br>+349 | | 792 |
| | 253<br>+308 | 561 |
| 786<br>+204 | | 990 |
| | 253<br>+228 | 481 |
| 526<br>+418 | | 944 |
| | 384<br>+306 | 690 |

871

## Level 2 Quick Drills 65-72

**# 65 Skill** Mult. facts, 2's and 5's — Level 2 Prob. 21 & 23 *

| Problem | Answer |
|---|---|
| 2 x 5 = __ | 10 |
| 5 x 1 = __ | 5 |
| 2 x 9 = __ | 18 |
| 4 x 5 = __ | 20 |
| 2 x 4 = __ | 8 |
| 5 x 5 = __ | 25 |
| 5 x 9 = __ | 45 |
| 5 x 3 = __ | 15 |
| 2 x 5 = __ | 10 |
| 2 x 3 = __ | 6 |
| 5 x 3 = __ | 15 |
| 2 x 8 = __ | 16 |
| 8 x 5 = __ | 40 |
| 5 x 7 = __ | 35 |
| 2 x 1 = __ | 2 |
| 6 x 5 = __ | 30 |
| 5 x 4 = __ | 20 |
| 2 x 6 = __ | 12 |
| 5 x 5 = __ | 25 |
| 2 x 7 = __ | 14 |

**# 66 Skill** Mult. facts, 3's only — Level 2 Prob. 22 K.K. 56

| | | | |
|---|---|---|---|
| 3 x 1 | 2 x 3 | 3 | 6 |
| 3 x 3 | 0 x 3 | 9 | 0 |
| 6 x 3 | 3 x 4 | 18 | 12 |
| 5 x 3 | 0 x 3 | 15 | 0 |
| 1 x 3 | 9 x 3 | 3 | 27 |
| 3 x 4 | 3 x 2 | 12 | 6 |
| 3 x 3 | 7 x 3 | 9 | 21 |
| 8 x 3 | 9 x 3 | 24 | 27 |
| 3 x 6 | 7 x 3 | 18 | 21 |
| 1 x 3 | 5 x 3 | 3 | 15 |

**# 67 Skill** Mult. facts, 3's only — Level 2 Prob. 23 K.K. 56

| Problem | Answer |
|---|---|
| 3 x 5 = __ | 15 |
| 3 x 4 = __ | 12 |
| 7 x 3 = __ | 21 |
| 3 x 0 = __ | 0 |
| 3 x 3 = __ | 9 |
| 3 x 6 = __ | 18 |
| 1 x 3 = __ | 3 |
| 3 x 4 = __ | 12 |
| 3 x 2 = __ | 6 |
| 3 x 8 = __ | 24 |
| 3 x 3 = __ | 9 |
| 0 x 3 = __ | 0 |
| 3 x 5 = __ | 15 |
| 3 x 9 = __ | 27 |
| 3 x 1 = __ | 3 |
| 8 x 3 = __ | 24 |
| 3 x 6 = __ | 18 |
| 3 x 9 = __ | 27 |
| 3 x 2 = __ | 6 |
| 3 x 7 = __ | 21 |

**#68 Skill** Subt., 1-digit from 2-digit, renaming — Level 2 Prob. K.K.

| | | | |
|---|---|---|---|
| 85 - 7 | 31 - 2 | 78 | 29 |
| 27 - 9 | 74 - 6 | 18 | 68 |
| 32 - 9 | 95 - 6 | 23 | 89 |
| 24 - 8 | 65 - 7 | 16 | 58 |
| 37 - 8 | 44 - 7 | 29 | 37 |

**#69 Skill** Subt., 2-digit from 2-digit renaming — Level 2 Prob. 16 &17 K.K. 37

| | | | |
|---|---|---|---|
| 63 -14 | 78 -69 | 49 | 9 |
| 36 -19 | 42 -14 | 17 | 28 |
| 82 -55 | 62 -25 | 27 | 37 |
| 48 -29 | 45 -27 | 19 | 18 |

**# 70 Skill** Mult. facts, 0's, 2's, 3's & 5's — Level 2 Review K.K. 64

| | | | |
|---|---|---|---|
| 8 x 3 | 4 x 2 | 24 | 8 |
| 6 x 5 | 6 x 0 | 30 | 0 |
| 7 x 3 | 4 x 5 | 21 | 20 |
| 7 x 2 | 4 x 3 | 14 | 12 |
| 7 x 0 | 5 x 2 | 0 | 10 |
| 5 x 0 | 7 x 5 | 0 | 35 |
| 9 x 3 | 8 x 2 | 27 | 16 |
| 5 x 3 | 1 x 0 | 15 | 0 |
| 9 x 2 | 8 x 5 | 18 | 40 |
| 9 x 5 | 6 x 3 | 45 | 18 |

**# 71 Skill** Mult. facts, 4's only — Level 2 ** K.K. 58

| | | | |
|---|---|---|---|
| 3 x 4 | 0 x 4 | 12 | 0 |
| 1 x 4 | 4 x 4 | 4 | 16 |
| 4 x 4 | 4 x 2 | 16 | 8 |
| 5 x 4 | 3 x 4 | 20 | 12 |
| 9 x 4 | 0 x 4 | 36 | 0 |
| 4 x 7 | 6 x 4 | 28 | 24 |
| 8 x 4 | 5 x 4 | 32 | 20 |
| 7 x 4 | 4 x 6 | 28 | 24 |
| 1 x 4 | 8 x 4 | 4 | 32 |
| 9 x 4 | 4 x 2 | 36 | 8 |

**# 72 Skill** Mult. facts, 4's only — Level 2 ** K.K. 58

| Problem | Answer |
|---|---|
| 4 x 4 = __ | 16 |
| 2 x 4 = __ | 8 |
| 0 x 4 = __ | 0 |
| 3 x 4 = __ | 12 |
| 5 x 4 = __ | 20 |
| 1 x 4 = __ | 4 |
| 6 x 4 = __ | 24 |
| 5 x 4 = __ | 20 |
| 8 x 4 = __ | 32 |
| 0 x 4 = __ | 0 |
| 7 x 4 = __ | 28 |
| 3 x 4 = __ | 12 |
| 6 x 4 = __ | 24 |
| 9 x 4 = __ | 36 |
| 1 x 4 = __ | 4 |
| 8 x 4 = __ | 32 |
| 4 x 4 = __ | 16 |
| 7 x 4 = __ | 28 |
| 2 x 4 = __ | |
| 9 x 4 = __ | 36 |

## Level 2 Quick Drills 73-80

**# 73 Skill** Level 2 ** *
Mult. facts,
0's thru 5's

| | | | |
|---|---|---|---|
| 5 x 2 | 6 x 0 | 10 | 0 |
| 5 x 3 | 6 x 4 | 15 | 24 |
| 8 x 1 | 6 x 2 | 8 | 12 |
| 7 x 4 | 7 x 0 | 28 | 0 |
| 7 x 5 | 8 x 3 | 35 | 24 |
| 4 x 3 | 7 x 2 | 12 | 14 |
| 9 x 0 | 8 x 4 | 0 | 32 |
| 6 x 5 | 3 x 1 | 30 | 3 |
| 9 x 3 | 5 x 5 | 27 | 25 |
| 8 x 2 | 9 x 1 | 16 | 9 |

**#74 Skill** Level 2
Subt., 3-digit from 3-digit, no renaming
Prob. 18
K.K.39

| | |
|---|---|
| 565 - 463 | 102 |
| 671 - 520 | 151 |
| 668 - 426 | 242 |
| 454 - 121 | 333 |
| 562 - 351 | 211 |
| 938 - 623 | 315 |
| 358 - 111 | 247 |

**#75 Skill** Level 2
Subt., 3-digit from 3-digit, renaming tens
Prob. 19 & 20
K.K. 40

| | |
|---|---|
| 392 - 338 | 54 |
| 452 - 238 | 214 |
| 572 - 129 | 443 |
| 290 - 225 | 65 |
| 743 - 609 | 134 |
| 284 - 178 | 106 |

**# 76 Skill** Level 2
Add. thru 12, (=, < or > )
Prob. 24
K.K. 115

| | |
|---|---|
| 7 ○ 4 + 1 | > |
| 10 ○ 8 | > |
| 5 + 1 ○ 2 + 4 | = |
| 4 + 1 ○ 5 + 3 | < |
| 2 + 1 ○ 3 | = |
| 7 ○ 5 + 1 | > |
| 4 + 2 ○ 7 | < |
| 3 + 3 ○ 4 + 2 | = |
| 2 + 1 ○ 3 | = |
| 2 + 2 ○ 5 | < |
| 6 + 2 ○ 3 + 4 | > |
| 2 + 2 ○ 3 | > |
| 5 + 1 ○ 8 | < |
| 3 + 3 ○ 9 | < |

**# 77 Skill** Level 2
Subt., minuends thru 12, ( =, < or > )
Prob. 25
K.K. 122

| | |
|---|---|
| 4 - 3 ○ 5 | < |
| 7 - 5 ○ 8 - 6 | = |
| 4 - 3 ○ 6 - 1 | < |
| 5 - 1 ○ 6 - 3 | > |
| 8 - 7 ○ 6 - 2 | < |
| 7 - 5 ○ 9 - 8 | > |
| 9 - 3 ○ 6 | = |
| 8 - 7 ○ 6 - 5 | = |
| 4 - 2 ○ 6 - 5 | > |
| 6 ○ 7 - 1 | = |
| 9 - 9 ○ 8 - 7 | < |
| 5 ○ 5 - 4 | > |
| 9 - 2 ○ 7 - 3 | > |
| 8 ○ 7 - 6 | > |

**# 78 Skill** Level 2
Add., 1 & 2-digits, renaming
Prob. 2
K.K. 9

| | | | |
|---|---|---|---|
| 35 + 5 | 17 + 5 | 40 | 22 |
| 28 + 5 | 34 + 7 | 33 | 41 |
| 19 + 3 | 37 + 5 | 22 | 42 |
| 23 + 9 | 27 + 4 | 32 | 31 |
| 26 + 7 | 27 + 7 | 33 | 34 |
| 15 + 8 | 14 + 9 | 23 | 23 |

**# 79 Skill** Level 2
Add., 2-digits, renaming
Prob. 3 & 4
K.K. 10

| | | | |
|---|---|---|---|
| 67 + 25 | 74 + 17 | 92 | 91 |
| 65 + 15 | 23 + 18 | 80 | 41 |
| 35 + 16 | 28 + 18 | 51 | 46 |
| 16 + 36 | 32 + 18 | 52 | 50 |
| 44 + 16 | 37 + 25 | 60 | 62 |
| 54 + 16 | 81 + 9 | 70 | 90 |

**# 80 Skill** Level 2 **
Column add., 2-digit, renaming
K.K. 11

| | | | |
|---|---|---|---|
| 14<br>14<br>+ 22 | 15<br>31<br>+ 13 | 50 | 59 |
| 23<br>12<br>+ 3 | 42<br>13<br>+ 36 | 38 | 91 |
| 43<br>16<br>+ 12 | 11<br>46<br>+ 32 | 71 | 89 |
| 32<br>41<br>+ 14 | 35<br>23<br>+ 14 | 87 | 72 |
| 12<br>6<br>+ 11 | 45<br>14<br>+ 4 | 29 | 63 |
| 14<br>31<br>+ 3 | 15<br>11<br>+ 43 | 48 | 69 |

## Level 3 Quick Drills 81-88

**# 81 Skill** Level 3
Add., 3-digit **
addends, K.K. 12
no renaming

| | | | |
|---|---|---|---|
| 425<br>+364 | 601<br>+298 | 789 | 899 |
| 250<br>+432 | 729<br>+150 | 682 | 879 |
| 604<br>+105 | 586<br>+203 | 709 | 789 |
| 123<br>+454 | 541<br>+417 | 577 | 958 |
| 268<br>+421 | 118<br>+260 | 689 | 378 |
| 244<br>+152 | 513<br>+253 | 396 | 766 |
| 371<br>+303 | 225<br>+730 | 674 | 955 |

**# 82 Skill** Level 3
Add., 3-digit **
addends, K.K. 13
renaming ones

| | | | |
|---|---|---|---|
| 543<br>+118 | 339<br>+419 | 661 | 758 |
| 739<br>+227 | 644<br>+128 | 966 | 772 |
| 405<br>+425 | 264<br>+727 | 830 | 991 |
| 179<br>+515 | 828<br>+132 | 694 | 960 |
| 828<br>+132 | 517<br>+276 | 960 | 793 |

**# 83 Skill** Level 3
Add., 3-digit Prob. 2
addends, K.K. 14
renaming tens

| | | | |
|---|---|---|---|
| 456<br>+253 | 195<br>+532 | 709 | 727 |
| 580<br>+353 | 471<br>+496 | 933 | 967 |
| 753<br>+163 | 263<br>+391 | 916 | 654 |
| 222<br>+594 | 669<br>+280 | 816 | 949 |
| 391<br>+484 | 195<br>+654 | 875 | 849 |

**# 84 Skill** Level 3
Add., dollars Prob. 3
& cents, K.K. 15
renaming & 18

| | | |
|---|---|---|
| $4.34<br>+ 2.71 | $5.41<br>+ 1.73 | $7.05<br>$7.14 |
| $5.70<br>+ 1.46 | $3.65<br>+ 3.84 | $7.16<br>$7.49 |
| $1.62<br>+ 7.61 | $4.94<br>+ 4.33 | $9.23<br>$9.27 |
| $3.64<br>+ 4.70 | $6.91<br>+ 1.28 | $8.34<br>$8.19 |
| $4.76<br>+ 4.83 | $1.75<br>+ 5.61 | $9.59<br>$7.36 |

**# 85 Skill** Level 3
Mult. facts, Prob. 13
6's only K.K. 59

| | | | |
|---|---|---|---|
| 6<br>x 4 | 6<br>x 0 | 24 | 0 |
| 6<br>x 9 | 6<br>x 8 | 54 | 48 |
| 6<br>x 7 | 6<br>x 5 | 42 | 30 |
| 6<br>x 6 | 6<br>x 5 | 36 | 30 |
| 6<br>x 4 | 6<br>x 1 | 24 | 6 |
| 6<br>x 3 | 6<br>x 6 | 18 | 36 |
| 6<br>x 2 | 6<br>x 0 | 12 | 0 |
| 6<br>x 1 | 6<br>x 7 | 6 | 42 |
| 6<br>x 8 | 6<br>x 3 | 48 | 18 |

**# 86 Skill** Level 3
Mult. facts, Prob. 13
6's only K.K. 59

1 x 6 = ___ 6
4 x 6 = ___ 24
7 x 6 = ___ 42
8 x 6 = ___ 48
0 x 6 = ___ 0
5 x 6 = ___ 30
9 x 6 = ___ 54
6 x 6 = ___ 36
5 x 6 = ___ 30
4 x 6 = ___ 24
3 x 6 = ___ 18
6 x 6 = ___ 36
2 x 6 = ___ 12
7 x 6 = ___ 42
2 x 6 = ___ 12
0 x 6 = ___ 0
9 x 6 = ___ 54
1 x 6 = ___ 6
8 x 6 = ___ 48
3 x 6 = ___ 18

**# 87 Skill** Level 3
Mult. facts, **
7's only K.K. 60

| | | | |
|---|---|---|---|
| 7<br>x 3 | 7<br>x 5 | 21 | 35 |
| 7<br>x 9 | 7<br>x 6 | 63 | 42 |
| 7<br>x 4 | 7<br>x 0 | 28 | 0 |
| 7<br>x 7 | 7<br>x 2 | 49 | 14 |
| 7<br>x 8 | 7<br>x 9 | 56 | 63 |

1 x 7 = ___ 7
4 x 7 = ___ 28
5 x 7 = ___ 35
9 x 7 = ___ 63
7 x 7 = ___ 49
3 x 7 = ___ 21
6 x 7 = ___ 42
0 x 7 = ___ 0

**# 88 Skill** Level 3
Mult. facts, **
8's only K.K. 61

| | | | |
|---|---|---|---|
| 8<br>x 4 | 8<br>x 0 | 32 | 0 |
| 8<br>x 3 | 8<br>x 9 | 24 | 72 |
| 8<br>x 7 | 8<br>x 5 | 56 | 40 |
| 8<br>x 9 | 8<br>x 3 | 72 | 24 |
| 8<br>x 1 | 8<br>x 2 | 8 | 16 |

1 x 8 = ___ 8
4 x 8 = ___ 32
3 x 8 = ___ 24
5 x 8 = ___ 40
8 x 8 = ___ 64
6 x 8 = ___ 48
7 x 8 = ___ 56
9 x 8 = ___ 72

## Level 3 Quick Drills 89-96

**# 89 Skill** Mult. facts, 5's thru 8's — Level 3 Review K.K. 64 & 134

| | | | |
|---|---|---|---|
| 9<br>x 7 | 4<br>x 6 | 63 | 24 |
| 2<br>x 8 | 9<br>x 5 | 16 | 45 |
| 5<br>x 6 | 1<br>x 8 | 30 | 8 |
| 7<br>x 5 | 3<br>x 8 | 35 | 24 |
| 8<br>x 7 | 7<br>x 6 | 56 | 42 |

| | |
|---|---|
| 8 x 4 = ___ | 32 |
| 7 x 5 = ___ | 35 |
| 6 x 7 = ___ | 42 |
| 8 x 6 = ___ | 48 |
| 8 x 5 = ___ | 40 |
| 7 x 6 = ___ | 42 |
| 6 x 9 = ___ | 54 |

**# 90 Skill** Mult. facts, 9's only — Level 3 ** K.K. 62

| | | | |
|---|---|---|---|
| 9<br>x 5 | 9<br>x 3 | 45 | 27 |
| 9<br>x 6 | 9<br>x 4 | 54 | 36 |
| 9<br>x 8 | 9<br>x 9 | 72 | 81 |
| 9<br>x 5 | 9<br>x 0 | 45 | 0 |
| 9<br>x 9 | 9<br>x 6 | 81 | 54 |

| | |
|---|---|
| 2 x 9 = ___ | 18 |
| 4 x 9 = ___ | 36 |
| 1 x 9 = ___ | 9 |
| 6 x 9 = ___ | 54 |
| 0 x 9 = ___ | 0 |
| 7 x 9 = ___ | 63 |
| 2 x 9 = ___ | 18 |

**# 91 Skill** Mult. facts, 1's thru 9's — Level 3 Review K.K. 64, 65 & 134

| | | | |
|---|---|---|---|
| 5<br>x 8 | 9<br>x 7 | 40 | 63 |
| 2<br>x 9 | 8<br>x 4 | 18 | 32 |
| 8<br>x 7 | 7<br>x 6 | 56 | 42 |
| 9<br>x 1 | 3<br>x 9 | 9 | 27 |
| 6<br>x 6 | 5<br>x 6 | 36 | 30 |

| | |
|---|---|
| 9 x 9 = ___ | 81 |
| 8 x 3 = ___ | 24 |
| 4 x 9 = ___ | 36 |
| 6 x 9 = ___ | 54 |
| 5 x 7 = ___ | 35 |
| 7 x 2 = ___ | 14 |
| 8 x 6 = ___ | 48 |
| 5 x 4 = ___ | 20 |

**# 92 Skill** Mult. with 10 — Level 3 Prob. 15 K.K. 63

| | | | |
|---|---|---|---|
| 10<br>x 1 | 10<br>x 4 | 10 | 40 |
| 10<br>x 9 | 10<br>x 2 | 90 | 20 |
| 10<br>x 1 | 10<br>x 5 | 10 | 50 |
| 10<br>x 3 | 10<br>x 0 | 30 | 0 |
| 10<br>x 7 | 10<br>x 2 | 70 | 20 |
| 10<br>x 10 | 10<br>x 6 | 100 | 60 |
| 10<br>x 8 | 10<br>x 0 | 80 | 0 |
| 10<br>x 9 | 10<br>x 8 | 90 | 80 |
| 10<br>x 4 | 10<br>x 6 | 40 | 60 |

**#93 Skill** Subt., 3-digit from 3-digit, renaming — Level 3 Prob. 7 K.K. 41

| | | | |
|---|---|---|---|
| 655<br>-286 | 415<br>-178 | 369 | 237 |
| 537<br>-149 | 532<br>-384 | 388 | 148 |
| 858<br>-679 | 523<br>-295 | 179 | 228 |
| 923<br>-258 | 864<br>-188 | 665 | 676 |
| 416<br>-129 | 823<br>-174 | 287 | 649 |

**# 94 Skill** Mult., 2-digit by 1-digit, no renaming — Level 3 ** K.K. 68

| | |
|---|---|
| 6 x 11 = ___ | 66 |
| 2 x 13 = ___ | 26 |
| 5 x 11 = ___ | 55 |
| 8 x 11 = ___ | 88 |
| 4 x 12 = ___ | 48 |
| 3 x 12 = ___ | 36 |
| 3 x 13 = ___ | 39 |
| 7 x 11 = ___ | 77 |

| | | | |
|---|---|---|---|
| 11<br>x 6 | 14<br>x 2 | 66 | 28 |
| 12<br>x 4 | 13<br>x 2 | 48 | 26 |
| 11<br>x 6 | 11<br>x 7 | 66 | 77 |
| 12<br>x 4 | 12<br>x 3 | 48 | 36 |
| 11<br>x 8 | 13<br>x 3 | 88 | 39 |
| 11<br>x 9 | 11<br>x 5 | 99 | 55 |

**# 95 Skill** Div. facts, divisors 2 & 3 — Level 3 ** K.K. 91

| | | | |
|---|---|---|---|
| 3) 9 | 3) 15 | 3 | 5 |
| 3) 24 | 2) 12 | 8 | 6 |
| 2) 4 | 3) 3 | 2 | 1 |
| 2) 10 | 3) 6 | 5 | 2 |
| 2) 8 | 3) 27 | 4 | 9 |
| 2) 18 | 2) 14 | 9 | 7 |

| | |
|---|---|
| 16 ÷ 2 = ___ | 8 |
| 27 ÷ 3 = ___ | 9 |
| 3 ÷ 3 = ___ | 1 |
| 18 ÷ 2 = ___ | 9 |
| 4 ÷ 2 = ___ | 2 |
| 15 ÷ 3 = ___ | 5 |
| 12 ÷ 2 = ___ | 6 |
| 6 ÷ 2 = ___ | 3 |

**# 96 Skill** Div. facts, divisors 4 & 5 — Level 3 ** K.K. 92

| | | | |
|---|---|---|---|
| 5) 45 | 4) 32 | 9 | 8 |
| 5) 30 | 4) 20 | 6 | 5 |
| 5) 15 | 4) 8 | 3 | 2 |
| 4) 36 | 5) 35 | 9 | 7 |
| 4) 24 | 5) 20 | 6 | 4 |

| | |
|---|---|
| 28 ÷ 4 = ___ | 7 |
| 40 ÷ 5 = ___ | 8 |
| 8 ÷ 2 = ___ | 4 |
| 15 ÷ 5 = ___ | 3 |
| 20 ÷ 4 = ___ | 5 |
| 30 ÷ 5 = ___ | 6 |
| 32 ÷ 4 = ___ | 8 |
| 45 ÷ 5 = ___ | 9 |
| 36 ÷ 4 = ___ | 9 |
| 20 ÷ 5 = ___ | 4 |

# Level 3 Quick Drills 97-104

# 97 Skill
Div. facts,
divisors
2 thru 5

Level 3
Review
K.K. 91
& 92

| | | | |
|---|---|---|---|
| $3\overline{)9}$ | $3\overline{)6}$ | 3 | 2 |
| $5\overline{)30}$ | $4\overline{)32}$ | 6 | 8 |
| $2\overline{)8}$ | $4\overline{)36}$ | 4 | 9 |
| $5\overline{)35}$ | $3\overline{)24}$ | 7 | 8 |
| $4\overline{)24}$ | $5\overline{)20}$ | 6 | 4 |
| $2\overline{)10}$ | $5\overline{)10}$ | 5 | 2 |
| $4\overline{)16}$ | $2\overline{)18}$ | 4 | 9 |
| $4\overline{)28}$ | $5\overline{)40}$ | 7 | 8 |
| $2\overline{)14}$ | $5\overline{)45}$ | 7 | 9 |
| $4\overline{)8}$ | $2\overline{)16}$ | 2 | 8 |
| $3\overline{)15}$ | $5\overline{)25}$ | 5 | 5 |

# 98 Skill
Div. facts,
divisors
6 & 7

Level 3
**
K.K. 93

| | | | |
|---|---|---|---|
| $7\overline{)56}$ | $7\overline{)49}$ | 8 | 7 |
| $6\overline{)36}$ | $7\overline{)28}$ | 6 | 4 |
| $6\overline{)18}$ | $7\overline{)7}$ | 3 | 1 |
| $7\overline{)63}$ | $6\overline{)48}$ | 9 | 8 |
| $7\overline{)35}$ | $6\overline{)24}$ | 5 | 4 |

| | |
|---|---|
| 7 ÷ 7 = ___ | 1 |
| 63 ÷ 7 = ___ | 9 |
| 48 ÷ 6 = ___ | 8 |
| 35 ÷ 7 = ___ | 5 |
| 24 ÷ 6 = ___ | 4 |
| 14 ÷ 7 = ___ | 2 |
| 6 ÷ 6 = ___ | 1 |
| 30 ÷ 6 = ___ | 5 |
| 36 ÷ 6 = ___ | 6 |
| 42 ÷ 7 = ___ | 6 |

# 99 Skill
Div. facts,
divisors
8 & 9

Level 3
Prob. 16
K.K. 94
& 140

| | | | |
|---|---|---|---|
| $9\overline{)72}$ | $9\overline{)63}$ | 8 | 7 |
| $9\overline{)81}$ | $8\overline{)64}$ | 9 | 8 |
| $8\overline{)48}$ | $8\overline{)56}$ | 6 | 7 |
| $8\overline{)72}$ | $9\overline{)54}$ | 9 | 6 |
| $9\overline{)45}$ | $9\overline{)36}$ | 5 | 4 |

| | |
|---|---|
| 64 ÷ 8 = ___ | 8 |
| 45 ÷ 9 = ___ | 5 |
| 16 ÷ 8 = ___ | 2 |
| 9 ÷ 9 = ___ | 1 |
| 40 ÷ 8 = ___ | 5 |
| 27 ÷ 9 = ___ | 3 |
| 8 ÷ 8 = ___ | 1 |
| 54 ÷ 9 = ___ | 6 |
| 63 ÷ 9 = ___ | 7 |
| 81 ÷ 9 = ___ | 9 |

# 100 Skill
Add., 4-digit
addends,
renaming

Leve
Pro
K.K. 16

| | | | |
|---|---|---|---|
| 7449<br>+1083 | 5433<br>+2177 | 8512 | 7610 |
| 1077<br>+1793 | [illegible]<br>+1354 | 2870 | 2420 |
| 3455<br>+2379 | 2544<br>+3366 | 5834 | 5910 |
| 5234<br>+3579 | 6678<br>+3152 | 8813 | 9830 |
| 3221<br>+1489 | 5153<br>+2468 | 4710 | 7621 |

# 101 Skill
Div. facts,
divisors
2 thru 9

Level 3
Review
K.K. 91-94,
138 & 140

| | | | |
|---|---|---|---|
| $2\overline{)14}$ | $5\overline{)40}$ | 7 | 8 |
| $7\overline{)63}$ | $8\overline{)48}$ | 9 | 6 |
| $9\overline{)81}$ | $7\overline{)42}$ | 9 | 6 |
| $6\overline{)48}$ | $6\overline{)42}$ | 8 | 7 |
| $5\overline{)30}$ | $8\overline{)24}$ | 6 | 3 |
| $9\overline{)27}$ | $4\overline{)16}$ | 3 | 4 |

| | |
|---|---|
| 27 ÷ 3 = ___ | 9 |
| 36 ÷ 6 = ___ | 6 |
| 81 ÷ 9 = ___ | 9 |
| 72 ÷ 8 = ___ | 9 |
| 48 ÷ 6 = ___ | 8 |
| 45 ÷ 9 = ___ | 5 |
| 42 ÷ 7 = ___ | 6 |
| 21 ÷ 7 = ___ | 3 |

# 102 Skill
Mix. mult. &
div.,
2's & 3's

Level 3
Review
K.K. 54,
56 & 91

| | | | |
|---|---|---|---|
| 9<br>x 2 | 6<br>x 2 | 18 | 12 |
| 7<br>x 2 | 8<br>x 3 | 14 | 24 |
| $2\overline{)14}$ | $2\overline{)16}$ | 7 | 8 |
| $3\overline{)21}$ | $3\overline{)27}$ | 7 | 9 |
| 7<br>x 3 | 8<br>x 2 | 21 | 16 |
| 9<br>x 3 | 8<br>x 2 | 27 | 16 |
| $2\overline{)14}$ | $3\overline{)18}$ | 7 | 6 |
| $3\overline{)24}$ | $2\overline{)10}$ | 8 | 5 |

# 103 Skill
Mix. mult.
& div.,
4's & 5's

Level 3
Review
K.K. 55,
58 & 92

| | |
|---|---|
| 20 ÷ 5 = ___ | 4 |
| 4 x 5 = ___ | 20 |
| 16 ÷ 4 = ___ | 4 |
| 4 x 4 = ___ | 16 |
| 20 ÷ 4 = ___ | 5 |
| 5 x 6 = ___ | 30 |
| 5 x 5 = ___ | 25 |
| 30 ÷ 5 = ___ | 6 |
| 5 x 4 = ___ | 20 |
| 5 x 9 = ___ | 45 |
| 40 ÷ 5 = ___ | 8 |
| 4 x 6 = ___ | 24 |
| 4 x 8 = ___ | 32 |
| 24 ÷ 4 = ___ | 6 |
| 4 x 3 = ___ | 12 |
| 5 x 3 = ___ | 15 |
| 35 ÷ 5 = ___ | 7 |
| 4 x 9 = ___ | 36 |

# 104 Skill
Mix. mult.
& div.,
6's & 7's

Level 3
Review
K.K. 59,
60 & 93

| | | | |
|---|---|---|---|
| $6\overline{)36}$ | $7\overline{)49}$ | 6 | 7 |
| 6<br>x 6 | 8<br>x 6 | 36 | 48 |
| $6\overline{)42}$ | $6\overline{)30}$ | 7 | 5 |
| 2<br>x 7 | 7<br>x 7 | 14 | 49 |
| $6\overline{)36}$ | $6\overline{)54}$ | 6 | 9 |
| 3<br>x 7 | 5<br>x 6 | 21 | 30 |
| $6\overline{)18}$ | $7\overline{)42}$ | 3 | 6 |
| $6\overline{)48}$ | $6\overline{)24}$ | 8 | 4 |

## Level 3 Quick Drills 105-112

#105 Skill
Mixed mult. & div., 8's and 9's
Level 3 Review K.K. 61, 62, 94

| | |
|---|---|
| 64 ÷ 8 = ___ | 8 |
| 8 x 8 = ___ | 64 |
| 63 ÷ 9 = ___ | 7 |
| 9 x 7 = ___ | 63 |
| 72 ÷ 9 = ___ | 8 |
| 8 x 9 = ___ | 72 |
| 36 ÷ 9 = ___ | 4 |
| 9 x 8 = ___ | 72 |
| 9 x 4 = ___ | 36 |
| 48 ÷ 8 = ___ | 6 |
| 8 x 4 = ___ | 32 |
| 8 x 5 = ___ | 40 |
| 40 ÷ 8 = ___ | 5 |
| 8 x 2 = ___ | 16 |
| 32 ÷ 8 = ___ | 4 |
| 8 x 3 = ___ | 24 |
| 18 ÷ 9 = ___ | 2 |
| 8 x 2 = ___ | 16 |

#106 Skill
Mult., 3-digit by 1-digit, no renaming
Level 3 Prob. 11 K.K. 71

| | | | |
|---|---|---|---|
| 200 x 4 | 111 x 6 | 800 | 666 |
| 202 x 4 | 234 x 2 | 808 | 468 |
| 312 x 4 | 722 x 4 | 1248 | 2888 |
| 921 x 4 | 522 x 3 | 3684 | 1566 |
| 633 x 3 | 312 x 4 | 1899 | 1248 |
| 232 x 3 | 621 x 2 | 696 | 1242 |
| 432 x 2 | 434 x 2 | 864 | 868 |
| 212 x 4 | 211 x 3 | 848 | 633 |

#107 Skill
Mult., 2-digit by 1-digit, renaming
Level 3 ** K.K. 69

| | | | |
|---|---|---|---|
| 16 x 5 | 12 x 7 | 80 | 84 |
| 14 x 4 | 18 x 5 | 56 | 90 |
| 16 x 3 | 15 x 6 | 48 | 90 |
| 13 x 5 | 14 x 7 | 65 | 98 |
| 19 x 5 | 18 x 2 | 95 | 36 |
| 15 x 4 | 18 x 3 | 60 | 54 |
| 17 x 3 | 18 x 4 | 51 | 72 |
| 19 x 2 | 13 x 6 | 38 | 78 |
| 17 x 4 | 19 x 4 | 68 | 76 |
| 16 x 2 | 16 x 6 | 32 | 96 |

#108 Skill
Mult., 3-digit by 1-digit, renaming
Level 3 ** K.K. 72

| | | | |
|---|---|---|---|
| 324 x 3 | 416 x 2 | 972 | 832 |
| 436 x 2 | 228 x 3 | 872 | 684 |
| 319 x 3 | 214 x 4 | 957 | 856 |
| 113 x 6 | 117 x 5 | 678 | 585 |
| 218 x 4 | 246 x 2 | 872 | 492 |
| 225 x 3 | 148 x 2 | 675 | 296 |
| 227 x 3 | 139 x 2 | 681 | 278 |
| 114 x 7 | 324 x 2 | 798 | 648 |

#109 Skill
Div., 2 & 3-digit by 1-digit, no remainders
Level 3 Prob. 20 K.K. 96

| | |
|---|---|
| 7)637 | 91 |
| 5)105 | 21 |
| 6)306 | 51 |
| 8)168 | 21 |
| 2)24 | 12 |
| 4)368 | 92 |
| 5)205 | 41 |
| 7)357 | 51 |
| 3)96 | 32 |
| 6)66 | 11 |
| 6)366 | 61 |
| 4)128 | 32 |

#110 Skill
Column add., 2-digit addends, renaming
Level 3 Prob. 1 K.K. 11

| | |
|---|---|
| 13<br>83<br>+97 | 193 |
| 47<br>16<br>+52 | 115 |
| 80<br>73<br>+29 | 182 |
| 67<br>89<br>+90 | 246 |
| 77<br>63<br>+73 | 213 |
| 85<br>74<br>+65 | 224 |

#111 Skill
Subt., 3-digit from 3-digit, no renaming
Level 3 ** K.K. 39

| | | |
|---|---|---|
| 565 -121 | 929 -429 | 444<br>500 |
| 930 -620 | 779 -536 | 310<br>243 |
| 574 -522 | 670 -650 | 52<br>20 |
| 376 -135 | 611 -500 | 241<br>111 |
| 925 -520 | 839 -323 | 405<br>516 |
| 977 -812 | 483 -363 | 165<br>120 |
| 632 -521 | 640 -430 | 111<br>210 |
| 783 -260 | 449 -111 | 523<br>338 |

#112 Skill
Subt., 3-digit from 3-digit, renaming tens
Level 3 Prob. 6 K.K.40

| | | | |
|---|---|---|---|
| 837 -509 | 370 -143 | 328 | 227 |
| 981 -638 | 474 -218 | 343 | 256 |
| 582 -227 | 486 -108 | 355 | 378 |
| 991 -572 | 986 -649 | 419 | 337 |
| 571 -246 | 683 -254 | 325 | 429 |
| 985 -139 | 884 -516 | 846 | 368 |
| 980 -362 | 853 -439 | 618 | 414 |

## Level 3 Quick Drills 113-120

**# 113 Skill** Level 3
Subt., dollars and cents, renaming
Prob. 5
K.K. 38

| | | |
|---|---|---|
| $9.35<br>-5.16 | $3.42<br>-3.38 | $4.19<br>$0.04 |
| $4.53<br>-1.24 | $6.61<br>-3.12 | $3.29<br>$3.49 |
| $8.76<br>-8.08 | $6.63<br>-2.29 | $0.68<br>$4.34 |
| $9.62<br>-6.07 | $5.52<br>-1.33 | $3.55<br>$4.19 |
| $6.83<br>-2.77 | $7.88<br>-3.39 | $4.06<br>$4.49 |
| $7.71<br>-4.17 | $9.91<br>-6.28 | $3.54<br>$3.63 |

**# 114 Skill** Level 3
Mixed add, & subt., dollars & cents, renaming
Review
K.K. 18 & 38

| | | |
|---|---|---|
| $7.39<br>+2.27 | $9.43<br>-7.38 | $9.66<br>$2.05 |
| $6.87<br>-2.39 | $8.63<br>-7.29 | $4.48<br>$1.34 |
| $3.21<br>+4.79 | $8.94<br>+2.06 | $8.00<br>$11.00 |
| $9.89<br>-3.96 | $4.53<br>-2.91 | $5.93<br>$1.62 |
| $7.84<br>+1.99 | $6.44<br>-3.52 | $9.83<br>$2.92 |
| $2.76<br>+4.28 | $6.37<br>+1.65 | $7.04<br>$8.02 |

**# 115 Skill** Level 3
Mult., products thru 81, 2nd factor missing
Prob. 14
K.K. 135

| | |
|---|---|
| 1 x __ = 8 | 8 |
| 2 x __ = 12 | 6 |
| 8 x __ = 64 | 8 |
| 2 x __ = 18 | 9 |
| 5 x __ = 40 | 8 |
| 7 x __ = 49 | 7 |
| 5 x __ = 35 | 7 |
| 6 x __ = 48 | 8 |
| 4 x __ = 24 | 6 |
| 1 x __ = 9 | 9 |
| 6 x __ = 42 | 7 |
| 4 x __ = 32 | 8 |
| 9 x __ = 81 | 9 |
| 9 x __ = 63 | 7 |
| 7 x __ = 56 | 8 |
| 6 x __ = 30 | 5 |

**# 116 Skill** Level
Mult., products thru 81, 1st factor missing
**
K.K. 135

| | |
|---|---|
| __ x 6 = 36 | 6 |
| __ x 7 = 42 | 6 |
| __ x 8 = 32 | 4 |
| __ x 9 = 81 | 9 |
| __ x 7 = 7 | 1 |
| __ x 8 = 56 | 7 |
| __ x 5 = 25 | 5 |
| __ x 4 = 32 | 8 |
| __ x 7 = 49 | 7 |
| __ x 9 = 72 | 8 |
| __ x 9 = 18 | 2 |
| __ x 8 = 24 | 3 |
| __ x 7 = 35 | 5 |
| __ x 7 = 63 | 9 |
| __ x 6 = 42 | 7 |
| __ x 6 = 48 | 8 |
| __ x 9 = 27 | 3 |

**# 117 Skill** Level 3
Mult., products thru 81, factors & products missing
Review
K.K. 135

| | |
|---|---|
| __ x 9 = 54 | 6 |
| 5 x __ = 40 | 8 |
| 4 x 7 = __ | 28 |
| __ x 7 = 49 | 7 |
| 7 x __ = 56 | 8 |
| 6 x 7 = __ | 42 |
| __ x 7 = 35 | 5 |
| 3 x __ = 18 | 6 |
| 9 x 7 = __ | 63 |
| __ x 8 = 32 | 4 |
| __ x 4 = 32 | 8 |
| 7 x __ = 63 | 9 |
| 4 x __ = 28 | 7 |
| 8 x 8 = __ | 64 |

**# 118 Skill** Level 3
Mult., products thru 81, (=, < or > )
Prob. 24
K. K. 137

| | |
|---|---|
| 8 x 8 ○ 9 x 9 | < |
| 5 x 9 ○ 9 x 5 | = |
| 6 x 7 ○ 7 x 6 | = |
| 4 x 7 ○ 5 x 4 | > |
| 8 x 7 ○ 7 x 9 | < |
| 8 x 6 ○ 9 x 5 | > |
| 3 x 6 ○ 7 x 3 | < |
| 8 x 9 ○ 9 x 7 | > |
| 4 x 6 ○ 9 x 3 | < |
| 1 x 8 ○ 2 x 4 | = |
| 6 x 8 ○ 7 x 6 | > |
| 5 x 5 ○ 4 x 6 | > |
| 5 x 7 ○ 7 x 5 | = |
| 2 x 9 ○ 3 x 6 | = |

**# 119 Skill** Level 3
Div. dividends thru 25, divisor missing
Prob. 17
K.K. 139

| | |
|---|---|
| 10 ÷ __ = 5 | 2 |
| 14 ÷ __ = 2 | 7 |
| 12 ÷ __ = 3 | 4 |
| 15 ÷ __ = 5 | 3 |
| 6 ÷ __ = 6 | 1 |
| 21 ÷ __ = 3 | 7 |
| 24 ÷ __ = 6 | 4 |
| 18 ÷ __ = 9 | 2 |
| 16 ÷ __ = 2 | 8 |
| 18 ÷ __ = 3 | 6 |
| 20 ÷ __ = 5 | 4 |
| 12 ÷ __ = 2 | 6 |
| 15 ÷ __ = 3 | 5 |
| 24 ÷ __ = 4 | 6 |
| 25 ÷ __ = 5 | 5 |
| 21 ÷ __ = 7 | 3 |

**# 120 Skill** Level 3
Division, dividends thru 25, (=, <or>)
Prob. 25
K.K. 142

| | |
|---|---|
| 2 ÷ 1 ○ 3 ÷ 1 | < |
| 6 ÷ 3 ○ 10 ÷ 5 | = |
| 16 ÷ 4 ○ 12 ÷ 4 | > |
| 20 ÷ 5 ○ 25 ÷ 5 | < |
| 24 ÷ 3 ○ 16 ÷ 2 | = |
| 8 ÷ 2 ○ 8 ÷ 4 | > |
| 16 ÷ 4 ○ 4 ÷ 2 | > |
| 25 ÷ 5 ○ 20 ÷ 5 | > |
| 21 ÷ 7 ○ 24 ÷ 8 | = |
| 18 ÷ 6 ○ 18 ÷ 2 | < |
| 9 ÷ 3 ○ 12 ÷ 4 | = |
| 24 ÷ 6 ○ 24 ÷ 3 | < |

## Level 4 Quick Drills 121-128

**# 121 Skill**
Mult., products thru 25
Level 4 Review K. K. 132

| | |
|---|---|
| 0 x 3 = ___ | 0 |
| 1 x 9 = ___ | 9 |
| 2 x 7 = ___ | 14 |
| 3 x 6 = ___ | 18 |
| 4 x 2 = ___ | 8 |
| 4 x 5 = ___ | 20 |
| 5 x 1 = ___ | 5 |
| 5 x 4 = ___ | 20 |
| 6 x 3 = ___ | 18 |
| 7 x 1 = ___ | 7 |
| 8 x 2 = ___ | 16 |
| 9 x 2 = ___ | 18 |
| 0 x 8 = ___ | 0 |
| 2 x 8 = ___ | 16 |
| 1 x 6 = ___ | 6 |
| 3 x 5 = ___ | 15 |
| 4 x 4 = ___ | 16 |
| 5 x 3 = ___ | 15 |
| 6 x 2 = ___ | 12 |
| 7 x 2 = ___ | 14 |

**# 122 Skill**
Div., 2-digit by 1-digit, no remainders
Level 4
**
*

| | |
|---|---|
| 48 ÷ 4 = ___ | 12 |
| 82 ÷ 2 = ___ | 41 |
| 63 ÷ 3 = ___ | 21 |
| 78 ÷ 6 = ___ | 13 |
| 44 ÷ 4 = ___ | 11 |
| 26 ÷ 2 = ___ | 13 |
| 45 ÷ 3 = ___ | 15 |
| 66 ÷ 3 = ___ | 22 |
| 96 ÷ 8 = ___ | 12 |
| 57 ÷ 3 = ___ | 19 |
| 55 ÷ 5 = ___ | 11 |
| 84 ÷ 4 = ___ | 21 |

**# 123 Skill**
Mult., products thru 81
Level 4 Review K.K. 134

| | |
|---|---|
| 9 x 9 = ___ | 81 |
| 8 x 8 = ___ | 64 |
| 7 x 8 = ___ | 56 |
| 6 x 9 = ___ | 54 |
| 4 x 9 = ___ | 36 |
| 4 x 8 = ___ | 32 |
| 5 x 7 = ___ | 35 |
| 3 x 9 = ___ | 27 |
| 5 x 8 = ___ | 40 |
| 6 x 6 = ___ | 36 |
| 8 x 4 = ___ | 32 |
| 9 x 8 = ___ | 72 |
| 8 x 7 = ___ | 56 |
| 7 x 5 = ___ | 35 |
| 7 x 4 = ___ | 28 |
| 7 x 6 = ___ | 42 |
| 6 x 8 = ___ | 48 |
| 9 x 4 = ___ | 36 |
| 5 x 9 = ___ | 45 |

**# 124 Skill**
Mixed mult. & div.
Level 4 Review K.K. 134 & 140

| | |
|---|---|
| 4 x 5 = ___ | 20 |
| 20 ÷ 5 = ___ | 4 |
| 9 x 3 = ___ | 27 |
| 27 ÷ 9 = ___ | 3 |
| 6 x 8 = ___ | 48 |
| 48 ÷ 8 = ___ | 6 |
| 5 x 9 = ___ | 45 |
| 45 ÷ 9 = ___ | 5 |
| 3 x 6 = ___ | 18 |
| 18 ÷ 6 = ___ | 3 |
| 4 x 8 = ___ | 32 |
| 32 ÷ 8 = ___ | 4 |
| 9 x 9 = ___ | 81 |
| 81 ÷ 9 = ___ | 9 |
| 3 x 9 = ___ | 27 |
| 27 ÷ 3 = ___ | 9 |

**# 125 Skill**
Mult. with 10 & 100
Level 4
**
K.K. 66

| | | | |
|---|---|---|---|
| 75 x 10 | 66 x 10 | 750 | 660 |
| 100 x 9 | 100 x 8 | 900 | 800 |
| 21 x 10 | 36 x 10 | 210 | 360 |
| 100 x 35 | 100 x 15 | 3500 | 1500 |
| 14 x 10 | 16 x 10 | 140 | 160 |

**# 126 Skill**
Div., 2 & 3-digit by 1-digit, no remainders
Level 4 Review K.K. 96

| | | |
|---|---|---|
| 8)88 | 3)126 | 11<br>42 |
| 9)189 | 5)255 | 21<br>51 |
| 6)126 | 7)217 | 21<br>31 |
| 9)279 | 8)168 | 31<br>21 |
| 6)366 | 6)300 | 61<br>50 |
| 5)150 | 7)147 | 30<br>21 |
| 8)240 | 4)164 | 30<br>41 |

**# 127 Skill**
Div., 2 & 3-digit by 1-digit. remainders
Level 4 Prob. 20 K.K. 98

| | | |
|---|---|---|
| 3)127 | 8)89 | 42 r 1<br>11 r 1 |
| 6)127 | 5)257 | 21 r 1<br>51 r 2 |
| 6)367 | 7)219 | 61 r 1<br>31 r 2 |
| 6)184 | 7)218 | 30 r.4<br>31 r 1 |
| 5)156 | 6)362 | 31 r 1<br>60 r 2 |
| 4)166 | 5)358 | 41 r 2<br>71 r 3 |

**# 128 Skill**
Mult., multiples of 100
Level 4
**
K.K. 67

| | | | |
|---|---|---|---|
| 300 x 2 | 200 x 8 | 600 | 1600 |
| 400 x 9 | 600 x 5 | 3600 | 3000 |
| 800 x 7 | 900 x 2 | 5600 | 1800 |
| 400 x 3 | 500 x 5 | 1200 | 2500 |
| 700 x 3 | 600 x 4 | 2100 | 2400 |
| 900 x 4 | 300 x 3 | 3600 | 900 |

Level 4 Quick Drills 129-136

#129 Skill
Div., 3-digit by 2-digit, some remainders
Level 4
Prob. 22
K.K. 100

| | | |
|---|---|---|
| 37) 481 | | 13 |
| | 27) 405 | 15 |
| 23) 443 | | 19 r 6 |
| | 69) 926 | 13 r 29 |
| 75) 952 | | 12 r 52 |
| | 83) 929 | 11 r 16 |
| 29) 368 | | 12 r 20 |
| | 54) 638 | 11 r 44 |

# 130 Skill
Add., 3 addends (horiz.)
Level 4
**
*

6 + 8 + 3 = _ 17
9 + 2 + 3 = _ 14
8 + 5 + 9 = _ 22
4 + 8 + 8 = _ 20
9 + 6 + 9 = _ 24
7 + 7 + 7 = _ 21
6 + 6 + 8 = _ 20
5 + 6 + 9 = _ 20
4 + 9 + 3 = _ 16
6 + 6 + 2 = _ 14
5 + 8 + 8 = _ 21
9 + 9 + 7 = _ 25
10 + 10 + 11 = _ 31
8 + 8 + 8 = _ 24

# 131 Skill
Mult., multiples of 10 & 100
Level 4
Review
K.K. 67

8 x 30 = _ 240
4 x 50 = _ 200
4 x 300 = _ 1200
5 x 600 = _ 3000
6 x 50 = _ 300
8 x 70 = _ 560
3 x 90 = _ 270
7 x 600 = _ 4200
9 x 20 = _ 180
6 x 700 = _ 4200
3 x 40 = _ 120
9 x 70 = _ 630

#132 Skill
Subt., 3-digit from 3-digit, renaming
Lev[illegible]
Pro[illegible]
K.K. 41

| | | | |
|---|---|---|---|
| 718<br>- 669 | 923<br>- 779 | 49 | 144 |
| 823<br>- 635 | 712<br>- 529 | 188 | 183 |
| 821<br>- 249 | 711<br>- 435 | 572 | 276 |
| 831<br>- 765 | 608<br>- 489 | 66 | 119 |

#133 Skill
Mixed add. & subt., 3-digit addends, renaming
Level 4
Review
K.K. 15 & 40

| | | | |
|---|---|---|---|
| 706<br>-429 | 258<br>+374 | 277 | 632 |
| 569<br>+262 | 148<br>+165 | 831 | 313 |
| 752<br>-368 | 608<br>-239 | 384 | 369 |
| 428<br>+486 | 194<br>+368 | 914 | 562 |
| 397<br>+438 | 677<br>+149 | 835 | 826 |

#134 Skill
Add., 4-digit addends, renaming
Level 4
Prob. 1
K.K. 16

| | | | |
|---|---|---|---|
| 4361<br>+4285 | 3297<br>+6587 | 8646 | 9884 |
| 2502<br>+4748 | 5768<br>+1256 | 7250 | 7024 |
| 3585<br>+2874 | 2368<br>+6799 | 6459 | 9167 |
| 4268<br>+3613 | 3473<br>+3599 | 7881 | 7072 |

#135 Skill
Mult., 2-digit by 1-digit, renaming
Level 4
*
K.K. 70

| | | | |
|---|---|---|---|
| 68<br>x 4 | 92<br>x 8 | 272 | 736 |
| 86<br>x 4 | 75<br>x 9 | 344 | 675 |
| 38<br>x 6 | 29<br>x 7 | 228 | 203 |
| 57<br>x 8 | 98<br>x 3 | 456 | 294 |
| 69<br>x 6 | 53<br>x 7 | 414 | 371 |
| 67<br>x 5 | 94<br>x 7 | 335 | 658 |
| 17<br>x 8 | 83<br>x 5 | 136 | 415 |

#136 Skill
Mult., 3-digit by 1-digit, renaming
Level 4
*
K.K. 73

| | | | |
|---|---|---|---|
| 453<br>x 4 | 392<br>x 6 | 1812 | 2352 |
| 274<br>x 5 | 516<br>x 8 | 1370 | 4128 |
| 623<br>x 7 | 194<br>x 3 | 4361 | 582 |
| 532<br>x 6 | 807<br>x 9 | 3192 | 7263 |
| 426<br>x 8 | 645<br>x 8 | 3408 | 5160 |
| 952<br>x 5 | 719<br>x 6 | 4760 | 431[illegible] |

# Level 4 Quick Drills 137-144

**#137 Skill** Mult., 2-digit by multiple of 10, renaming
Level 4
Prob. 13
K.K. 74

| | | | |
|---|---|---|---|
| 36 x 10 | 34 x 20 | 360 | 680 |
| 25 x 20 | 72 x 10 | 500 | 720 |
| 64 x 20 | 40 x 10 | 1280 | 400 |
| 25 x 20 | 28 x 10 | 500 | 280 |
| 27 x 30 | 29 x 10 | 810 | 290 |
| 32 x 30 | 23 x 20 | 960 | 460 |

**# 138 Skill** Div., dividends thru 9, (=, or )
Level 4
Prob. 24
K.K 143

| | |
|---|---|
| 36 ÷ 6 ○ 36 ÷ 9 | > |
| 56 ÷ 8 ○ 35 ÷ 5 | = |
| 49 ÷ 7 ○ 56 ÷ 8 | = |
| 42 ÷ 7 ○ 48 ÷ 6 | < |
| 40 ÷ 8 ○ 32 ÷ 8 | > |
| 54 ÷ 6 ○ 45 ÷ 5 | = |
| 48 ÷ 6 ○ 72 ÷ 8 | < |
| 35 ÷ 7 ○ 32 ÷ 8 | > |
| 20 ÷ 5 ○ 25 ÷ 5 | < |
| 40 ÷ 5 ○ 64 ÷ 8 | = |

**# 139 Skill** Mult., dollars & cents, renaming
Level 4
Prob. 16 & 17
K.K. 79 & 80

| | |
|---|---|
| $31.53 x 8 | $252.24 |
| $9.21 x 6 | $55.26 |
| $2.58 x 3 | $7.74 |
| $7.65 x 7 | $53.55 |
| $6.27 x 47 | $294.69 |
| $7.46 x 82 | $611.72 |

**#140 Skill** Mult., 3-digit by multiple of 10 renaming
Level 4
**
*

| | | |
|---|---|---|
| 165 x 20 | 172 x 30 | 3300<br>5160 |
| 183 x 40 | 134 x 30 | 7320<br>4020 |
| 142 x 10 | 154 x 30 | 1420<br>4620 |
| 178 x 20 | 134 x 40 | 3560<br>5360 |

**#141 Skill** Mult., 3-digit by 2-digit, renaming
Level 4
Prob. 15
K.K. 78

| | | |
|---|---|---|
| 852 x 36 | 519 x 74 | 30,672<br>38,406 |
| 246 x 82 | 925 x 47 | 20,172<br>43,475 |
| 608 x 95 | 781 x 13 | 57,760<br>10,153 |
| 374 x 32 | 195 x 22 | 11,968<br>4290 |

**#142 Skill** Mult., 4-digit by 1-digit, renaming
Level 4
Prob. 18
K.K. 81

| | | |
|---|---|---|
| 2146 x 3 | 2522 x 6 | 6438<br>15,132 |
| 1802 x 5 | 1143 x 3 | 9010<br>3429 |
| 3402 x 3 | 1485 x 4 | 10,206<br>5940 |
| 1692 x 7 | 1630 x 4 | 11,844<br>6520 |

**#143 Skill** Div., 2 & 3-digit by 1-digit, no remainders
Level 4
Review
K.K. 96

| | |
|---|---|
| 6)276 | 46 |
| 7)259 | 37 |
| 2)850 | 425 |
| 4)864 | 216 |
| 4)196 | 49 |
| 7)245 | 35 |
| 9)387 | 43 |
| 7)238 | 34 |
| 5)75 | 15 |

**#144 Skill** Div., 2 & 3-digit by 1-digit, no remainders
Level 4
**
*

| | |
|---|---|
| 120 ÷ 2 = _ | 60 |
| 60 ÷ 6 = _ | 10 |
| 360 ÷ 4 = _ | 90 |
| 55 ÷ 5 = _ | 11 |
| 240 ÷ 3 = _ | 80 |
| 63 ÷ 3 = _ | 21 |
| 600 ÷ 3 = _ | 200 |
| 62 ÷ 2 = _ | 31 |
| 450 ÷ 5 = _ | 90 |
| 69 ÷ 3 = _ | 23 |
| 210 ÷ 7 = _ | 30 |
| 88 ÷ 4 = _ | 22 |

Level 4 Quick Drills 145-152

**# 145 Skill** Level 4
Add., decimals, renaming **
*

| | | |
|---|---|---|
| .8<br>+1.7 | .8<br>1.2<br>+4.0 | 2.5<br>6.0 |
| 7.3<br>+ 8.2 | 9.1<br>+3.5 | 15.5<br>12.6 |
| .9<br>+ .5 | 12.4<br>+17.8 | 1.4<br>30.2 |
| 16.<br>+ 4.5 | .6<br>+ .8 | 20.5<br>1.4 |
| 1.9<br>22.0<br>+ .8 | 58.1<br>14.6<br>+ 2.7 | 24.7<br>75.4 |

**# 146 Skill** Level 4
Subt., decimals, renaming **
*

| | | |
|---|---|---|
| 59.6<br>- 1.9 | 2.3<br>- .7 | 57.7<br>1.6 |
| 24.1<br>-11.6 | 1.3<br>- .5 | 12.5<br>.8 |
| 3.6<br>- 2.7 | 64.0<br>-31.5 | .9<br>32.5 |
| 50.7<br>- 9.8 | 1.5<br>- .9 | 40.9<br>.6 |

**# 147 Skill** Level 4
Subt., fractio[illegible] like denominators
Prob.9 & 10
K.K. 43-45

| | | |
|---|---|---|
| $\frac{4}{4}$<br>$-\frac{1}{4}$ | $\frac{7}{8}$<br>$-\frac{2}{8}$ | $\frac{3}{4}$ $\frac{5}{8}$ |
| $\frac{11}{12}$<br>$-\frac{6}{12}$ | $\frac{4}{5}$<br>$-\frac{2}{5}$ | $\frac{5}{12}$ $\frac{2}{5}$ |
| $\frac{7}{9}$<br>$-\frac{4}{9}$ | $\frac{12}{20}$<br>$-\frac{8}{20}$ | $\frac{3}{9} = \frac{1}{3}$<br>$\frac{4}{20} = \frac{1}{5}$ |
| $\frac{9}{10}$<br>$-\frac{3}{10}$ | $\frac{6}{6}$<br>$-\frac{2}{6}$ | $\frac{6}{10} = \frac{3}{5}$<br>$\frac{4}{6} = \frac{2}{3}$ |

**# 148 Skill** Level 4
Add., mixed numerals, like denominators **
K.K. 24

| | | |
|---|---|---|
| $1\frac{2}{4}$<br>$+ 1\frac{1}{4}$ | $3\frac{1}{5}$<br>$+ 2\frac{2}{5}$ | $2\frac{3}{4}$<br>$5\frac{3}{5}$ |
| $1\frac{3}{7}$<br>$+ 2\frac{1}{7}$ | $2\frac{3}{5}$<br>$+ 3\frac{1}{5}$ | $3\frac{4}{7}$<br>$5\frac{4}{5}$ |
| $6\frac{7}{8}$<br>$+ 3\frac{1}{8}$ | $2\frac{4}{9}$<br>$+ 3\frac{1}{9}$ | 10<br>$5\frac{5}{9}$ |
| $6\frac{2}{3}$<br>$+ 1\frac{1}{3}$ | $9\frac{1}{5}$<br>$+ 2\frac{3}{5}$ | 8<br>$11\frac{4}{5}$ |

**# 149 Skill** Level 4
Mixed practice, facts thru 81
Review
*

| | |
|---|---|
| 9 x 6 = ___ | 54 |
| 7 x 8 = ___ | 56 |
| 100 ÷ 10 = ___ | 10 |
| 19 + 2 = ___ | 21 |
| 18 - 7 = ___ | 11 |
| 40 ÷ 5 = ___ | 8 |
| 7 x 7 = ___ | 49 |
| 81 ÷ 9 = ___ | 9 |
| 16 + 4 = ___ | 20 |
| 25 + 6 = ___ | 31 |
| 19 - 10 = ___ | 9 |
| 48 ÷ 12 = ___ | 4 |
| 4 x 9 = ___ | 36 |
| 80 ÷ 10 = ___ | 8 |

**# 150 Skill** Level 4
Add., fractions, unlike denominators
Prob. 8
K.K. 25

| | | |
|---|---|---|
| $\frac{1}{2}$<br>$+\frac{1}{3}$ | $\frac{3}{8}$<br>$+\frac{2}{4}$ | $\frac{5}{6}$<br>$\frac{7}{8}$ |
| $\frac{4}{16}$<br>$+\frac{1}{8}$ | $\frac{5}{9}$<br>$+\frac{1}{3}$ | $\frac{6}{16} = \frac{3}{8}$<br>$\frac{8}{9}$ |
| $\frac{4}{8}$<br>$+\frac{1}{4}$ | $\frac{3}{6}$<br>$+\frac{1}{3}$ | $\frac{6}{8} = \frac{3}{4}$<br>$\frac{5}{6}$ |
| $\frac{4}{9}$<br>$+\frac{1}{3}$ | $\frac{3}{5}$<br>$+\frac{2}{10}$ | $\frac{7}{9}$<br>$\frac{8}{10} = \frac{4}{5}$ |

**#151 Skill** Level 4
Subt. 4-digits, renaming
Prob. 4
K.K. 42

| | | |
|---|---|---|
| 9276<br>- 1283 | 7495<br>- 6156 | 7993<br>1339 |
| 5874<br>- 3493 | 4753<br>- 2561 | 2381<br>2192 |
| 9619<br>- 2124 | 6549<br>- 2179 | 7495<br>4370 |
| 7686<br>- 4835 | 4266<br>- 3743 | 2851<br>525 |

**# 152 Skill** Level 4
Mixed add., subt., mult., & div.
(=, < or >)
Prob. 25
K.K. 144

| | |
|---|---|
| 4 x (6+2) ○ 4 x (3+5) | = |
| (4÷2) + 2 ○ (6÷3) + 2 | = |
| 2 x (3x2) ○ 4 x (2+2) | < |
| 5 + (20-6) ○ (5+20) - 6 | = |
| 2 + (3x3) ○ 6 + (2x2) | > |
| 3 + (2x4) ○ 4 + (3x3) | < |
| 2 x (4+4) ○ (36÷6) x 2 | > |
| 4 + (2x2) ○ 3 + (2x3) | < |

## Level 4 Quick Drills 153-160

**# 153 Skill**
Subt., fractions, unlike denominators

**Level 4**
Prob. 12
K.K. 40

| | | |
|---|---|---|
| $\frac{1}{6} - \frac{1}{12}$ | $\frac{8}{9} - \frac{2}{3}$ | $\frac{1}{12}$ <br> $\frac{2}{9}$ |
| $\frac{13}{16} - \frac{3}{4}$ | $\frac{4}{5} - \frac{3}{10}$ | $\frac{1}{16}$ <br> $\frac{5}{10} = \frac{1}{2}$ |
| $\frac{3}{4} - \frac{1}{2}$ | $\frac{5}{8} - \frac{5}{16}$ | $\frac{1}{4}$ <br> $\frac{5}{16}$ |
| $\frac{11}{12} - \frac{1}{2}$ | $\frac{1}{8} - \frac{1}{16}$ | $\frac{5}{12}$ <br> $\frac{1}{16}$ |

**# 154 Skill**
Add., dollars & cents, renaming

**Level 4**
Review
K.K. 18

| | | |
|---|---|---|
| $3.57 + 4.32 | $6.38 + 2.46 | $ 7.89 <br> $ 8.84 |
| $1.76 + 8.24 | 5.68 + 3.57 | $10.00 <br> $ 9.25 |
| $6.00 + 2.00 | $5.54 + 1.89 | $ 8.00 <br> $ 7.43 |
| $6.87 + 2.00 | $9.20 + 1.60 | $ 8.87 <br> $10.80 |
| $7.82 + 6.94 | $3.00 + 7.00 | $14.76 <br> $10.00 |

**# 155 Skill**
Subt., dollars & cents, renaming

**Level 4**
Review
K.K. 38

| | | |
|---|---|---|
| $4.57 - 2.64 | $9.42 - 5.73 | $1.93 <br> $3.69 |
| $6.52 - 4.38 | $3.28 - 2.49 | $2.14 <br> $0.79 |
| $9.58 - 4.60 | $6.79 - 4.82 | $4.98 <br> $1.97 |
| $3.57 - 2.58 | $5.61 - 4.74 | $0.99 <br> $0.87 |

**# 156 Skill**
Mixed mult. & div.

**Level 4**
Review
K.K. 78 & 100

| | |
|---|---|
| 463 x 37 | 17,131 |
| 946 x 74 | 70,004 |
| 827 x 34 | 28,118 |
| 73) 336 | 4 r 44 |
| 42) 271 | 6 r 19 |
| 61) 183 | 3 |

**# 157 Skill**
Mult., whole numbers by fractions.

**Level 4**
Prob. 19
K.K. 83

| | |
|---|---|
| $2 \times \frac{1}{4} =$ _ | $\frac{1}{2}$ |
| $5 \times \frac{1}{8} =$ _ | $\frac{5}{8}$ |
| $3 \times \frac{1}{4} =$ _ | $\frac{3}{4}$ |
| $5 \times \frac{1}{3} =$ _ | $\frac{5}{3} = 1\frac{2}{3}$ |
| $8 \times \frac{1}{7} =$ _ | $\frac{8}{7} = 1\frac{1}{7}$ |
| $3 \times \frac{1}{8} =$ _ | $\frac{3}{8}$ |
| $6 \times \frac{1}{5} =$ _ | $\frac{6}{5} = 1\frac{1}{5}$ |
| $7 \times \frac{1}{2} =$ _ | $\frac{7}{2} = 3\frac{1}{2}$ |
| $3 \times \frac{1}{5} =$ _ | $\frac{3}{5}$ |

**# 158 Skill**
Mult., 2-4 digit by 1-digit

**Level 4**
Review
K.K. 81

| | | |
|---|---|---|
| 42 x 2 | 31 x 3 | 84 93 |
| 40 x 2 | 31 x 8 | 80 248 |
| 322 x 3 | 123 x 3 | 966 369 |
| 421 x 4 | 514 x 2 | 1684 <br> 1028 |
| 1395 x 9 | | 12,555 |
| | 9872 x 7 | 69,104 |

**# 159 Skill**
Standard numerals

**Level 4**
**
*

| | |
|---|---|
| Eighty-four _____ | 84 |
| Thirty-six _____ | 36 |
| Eighty-one _____ | 81 |
| Forty-six _____ | 46 |
| Five hundred_____ | 500 |
| Ninety-two _____ | 92 |
| 6000+900+80+3=___ | 6983 |
| 9000+900+40=_____ | 9940 |
| 8000+6= _______ | 8006 |
| 5000+900+60+6=___ | 5966 |

**# 160 Skill**
Roman Numerals

**Level 4**
**
*

Sample: III = 3

| | |
|---|---|
| IV = _____ | 4 |
| V = _____ | 5 |
| X = _____ | 10 |
| VI = _____ | 6 |
| XV = _____ | 15 |
| IX = _____ | 9 |
| VIII = _____ | 8 |
| II = _____ | 2 |
| XIV = _____ | 14 |
| XX = _____ | 20 |
| XVI = _____ | 16 |
| XXI = _____ | 21 |
| VII = _____ | 7 |
| XVIII = _____ | 18 |

Level 5 Quick Drills 161-168

| # 161 Skill Column add., renaming | Level 5 Prob. 1 K.K. 17 |
|---|---|
| 585<br>284<br>+ 342 | 1211 |
| 3474<br>1231<br>95559<br>+ 97909 | 198,173 |
| 5515<br>4598<br>+ 2136 | 12,249 |
| 5515<br>4598<br>+ 1360 | 11,473 |
| 4002<br>3745<br>+ 1666 | 9413 |
| 7000<br>1000<br>+ 1500 | 9500 |

| # 162 Skill Mult., dollars & cents | | Level 5 Review K.K. 79 |
|---|---|---|
| $4.65<br>x 4 | $7.08<br>x 5 | $18.60<br>$35.40 |
| $5.95<br>x 6 | $8.56<br>x 4 | $35.70<br>$34.24 |
| $6.10<br>x 5 | $7.85<br>x 3 | $30.50<br>$23.55 |
| $8.81<br>x 9 | $7.42<br>x 5 | $79.29<br>$37.10 |
| $6.54<br>x 3 | $3.48<br>x 3 | $19.62<br>$10.44 |

| # 163 Skill Mult., 4-digit by 1-digit | | Level 5 ** * |
|---|---|---|
| 3300<br>x 6 | 4300<br>x 7 | 19,800<br>30,100 |
| 4600<br>x 6 | 2500<br>x 7 | 27,600<br>17,500 |
| 1300<br>x 9 | 1400<br>x 8 | 11,700<br>11,200 |
| 4900<br>x 6 | 1800<br>x 3 | 29,400<br>5400 |
| 2700<br>x 4 | 1600<br>x 5 | 10,800<br>8000 |

| # 164 Skill Mult., dollars & cents, | | Level 5 Review K.K. 80 |
|---|---|---|
| $15.60<br>x 74 | $16.34<br>x 18 | $1154.40<br>$294.12 |
| $11.63<br>x 48 | $14.44<br>x 16 | $558.24<br>$231.04 |
| $13.45<br>x 18 | $25.00<br>x 16 | $242.10<br>$400.00 |
| $18.40<br>x 15 | $24.00<br>x 12 | $276.00<br>$288.00 |

| # 165 Skill Div., 3-digit by 1-digit, remainders | Level 5 Prob. 20 * |
|---|---|
| 335 ÷ 3 = ___ | 111 r 2 |
| 446 ÷ 4 = ___ | 111 r 2 |
| 637 ÷ 6 = ___ | 106 r 1 |
| 805 ÷ 4 = ___ | 201 r 1 |
| 923 ÷ 4 = ___ | 230 r 3 |
| 614 ÷ 3 = ___ | 204 r 2 |
| 916 ÷ 8 = ___ | 114 r 4 |
| 656 ÷ 5 = ___ | 131 r 1 |
| 864 ÷ 5 = ___ | 172 r 4 |
| 464 ÷ 3 = ___ | 154 r 2 |
| 546 ÷ 5 = ___ | 109 r 1 |
| 783 ÷ 7 = ___ | 111 r 6 |
| 313 ÷ 3 = ___ | 104 r 1 |
| 673 ÷ 4 = ___ | 168 r 1 |

| # 166 Skill Div., some remainders | | Level 5 Review K.K. 98 & 99 |
|---|---|---|
| $4\overline{)848}$ | | 212 |
| | $5\overline{)559}$ | 111r 4 |
| $2\overline{)827}$ | | 413r 1 |
| | $9\overline{)949}$ | 105r 4 |
| $8\overline{)329}$ | | 41r 1 |
| | $2\overline{)616}$ | 308 |
| $7\overline{)397}$ | | 56r 5 |
| | $5\overline{)300}$ | 60 |

| # 167 Skill Mult., fraction by whole no. | Level 5 Review K.K. 83 |
|---|---|
| $\frac{1}{3} \times 5 =$ ___ | $\frac{5}{3} = 1\frac{2}{3}$ |
| $\frac{1}{6} \times 7 =$ ___ | $\frac{7}{6} = 1\frac{1}{6}$ |
| $\frac{1}{4} \times 8 =$ ___ | $\frac{8}{4} = 2$ |
| $\frac{1}{5} \times 25 =$ ___ | $\frac{25}{5} = 5$ |
| $\frac{1}{3} \times 15 =$ ___ | $\frac{15}{3} = 5$ |
| $\frac{1}{4} \times 12 =$ ___ | $\frac{12}{4} = 3$ |
| $\frac{1}{9} \times 27 =$ ___ | $\frac{27}{9} = 3$ |
| $\frac{1}{8} \times 24 =$ ___ | $\frac{24}{8} = 3$ |
| $\frac{1}{2} \times 16 =$ ___ | $\frac{16}{2} = 8$ |
| $\frac{1}{3} \times 27 =$ ___ | $\frac{27}{3} = 9$ |

| # 168 Skill Mult., fraction by fraction | Level 5 Prob. 18 K.K. 85 |
|---|---|
| $\frac{1}{3} \times \frac{1}{2} =$ ___ | $\frac{1}{6}$ |
| $\frac{1}{5} \times \frac{1}{3} =$ ___ | $\frac{1}{15}$ |
| $\frac{1}{2} \times \frac{1}{6} =$ ___ | $\frac{1}{12}$ |
| $\frac{1}{9} \times \frac{1}{2} =$ ___ | $\frac{1}{18}$ |
| $\frac{1}{4} \times \frac{1}{2} =$ ___ | $\frac{1}{8}$ |
| $\frac{1}{4} \times \frac{1}{5} =$ ___ | $\frac{1}{20}$ |
| $\frac{1}{5} \times \frac{1}{2} =$ ___ | $\frac{1}{10}$ |
| $\frac{1}{10} \times \frac{1}{2} =$ ___ | $\frac{1}{20}$ |
| $\frac{1}{11} \times \frac{1}{3} =$ ___ | $\frac{1}{33}$ |
| $\frac{1}{5} \times \frac{1}{6} =$ ___ | $\frac{1}{30}$ |

## Level 5 Quick Drills 169-176

# 169 Skill Level 5
Div., 4-digit by 2-digit, remainders
**
K.K. 102

$42\overline{)1737}$ 41r 15

$72\overline{)6882}$ 95r 42

$31\overline{)1964}$ 63r 11

$52\overline{)2968}$ 57r 4

$94\overline{)3864}$ 41r 10

# 170 Skill Level 5
Mult., fraction by whole number
**
K.K. 84

$\frac{2}{5} \times 5 =$ _ 2
$\frac{3}{4} \times 12 =$ _ 9
$\frac{2}{3} \times 4 =$ _ $2\frac{2}{3}$
$\frac{2}{5} \times 10 =$ _ 4
$\frac{5}{6} \times 30 =$ _ 25
$\frac{2}{9} \times 18 =$ _ 4
$\frac{3}{4} \times 24 =$ _ 18
$\frac{1}{4} \times 16 =$ _ 4
$\frac{2}{3} \times 18 =$ _ 12
$\frac{3}{5} \times 15 =$ _ 9

# 171 Skill Level 5
Add., decimals, renaming
Prob. 12
K.K. 28

$.4 + .7$ $.5 + .8$ 1.1 1.3
$.6 + .9$ $1.6 + .4$ 1.5 2.0
$.6 + .3$ $.8 + .7$ .9 1.5
$.6 + .7$ $.4 + .8$ 1.3 1.2
$.3 + .6$ $2.3 + .7$ .9 3.0
$7.1 + .4$ $6.9 + .1$ 7.5 7.0
$8.3 + .4$ $.6 + .8$ 8.7 1.4

# 172 Skill Level 5
Mixed add. & subt., decimals
Prob. 12&14
K.K. 28 & 53

$2.97 + 1.84$ $9.63 - 5.74$ 4.81 3.89
$9.5 + 2.7$ $8.58 - 6.79$ 12.2 1.79
$6.76 + 2.37$ $5.27 - 4.69$ 9.13 .58
$8.64 - 3.75$ $.7 + .5$ 4.89 1.2
$.3 + .9$ $4.7 + 4.8$ 1.2 9.5

# 173 Skill Level 5
Add., fractions, like denominators
**
K.K. 21

$\frac{3}{8} + \frac{7}{8}$ $\frac{4}{7} + \frac{3}{7}$ $\frac{10}{8} = 1\frac{1}{4}$ $\frac{7}{7} = 1$
$\frac{5}{8} + \frac{4}{8}$ $\frac{5}{6} + \frac{3}{6}$ $\frac{9}{8} = 1\frac{1}{8}$ $\frac{8}{6} = 1\frac{1}{3}$
$\frac{2}{3} + \frac{2}{3}$ $\frac{2}{9} + \frac{8}{9}$ $\frac{4}{3} = 1\frac{1}{3}$ $\frac{10}{9} = 1\frac{1}{9}$
$\frac{4}{5} + \frac{2}{5}$ $\frac{3}{4} + \frac{3}{4}$ $\frac{6}{5} = 1\frac{1}{5}$ $\frac{6}{4} = 1\frac{1}{2}$

# 174 Skill Level 5
Subt., fractions, like denominators
Review
K.K. 45

$\frac{5}{4} - \frac{1}{4}$ $\frac{8}{5} - \frac{1}{5}$ $\frac{4}{4} = 1$ $\frac{7}{5} = 1\frac{2}{5}$
$\frac{9}{6} - \frac{2}{6}$ $\frac{10}{7} - \frac{2}{7}$ $\frac{7}{6} = 1\frac{1}{6}$ $\frac{8}{7} = 1\frac{1}{7}$
$\frac{9}{5} - \frac{2}{5}$ $\frac{9}{4} - \frac{2}{4}$ $\frac{7}{5} = 1\frac{2}{5}$ $\frac{7}{4} = 1\frac{3}{4}$
$\frac{10}{8} - \frac{1}{8}$ $\frac{11}{6} - \frac{2}{6}$ $\frac{9}{8} = 1\frac{1}{8}$ $\frac{9}{6} = 1\frac{1}{2}$

# 175 Skill Level 5
Mult., renaming
Review
K.K. 70 71 78

$17 \times 5$ $36 \times 7$ 85 252
$123 \times 4$ $539 \times 4$ 492 2156
$305 \times 6$ $508 \times 91$ 1830 46,228
$466 \times 8$ $132 \times 7$ 3728 924
$337 \times 60$ $31 \times 32$ 20,220 992

# 176 Skill Level 5
Add., 4 & 5 addends
**
*

4 + 1 + 3 + 2 = _ 10
4 + 5 + 3 + 6 = _ 18
7 + 8 + 2 + 3 = _ 20
5 + 2 + 0 + 6 = _ 13
6 + 1 + 3 + 4 = _ 14
8 + 1 + 2 + 3 = _ 14
3 + 6 + 2 + 4 = _ 15
1 + 7 + 2 + 9 = _ 19
7 + 4 + 6 + 0 = _ 17
8 + 9 + 4 + 1 = _ 22
5 + 8 + 7 + 3 + 1 = _ 24
9 + 1 + 4 + 0 + 7 = _ 21
8 + 3 + 3 + 3 = _ 17
4 + 2 + 5 + 8 + 1 = _ 20
7 + 4 + 6 + 7 + 1 = _ 25
6 + 5 + 2 + 9 + 8 = _ 30
3 + 4 + 5 + 3 + 4 = _ 19

## Level 5 Quick Drills 177-184

# 177 Skill
Add., mixed
num., fract.,
like denominators

Level 5
**
K.K. 23

$\begin{array}{r} 2\frac{3}{8} \\ +\ \frac{2}{8} \\ \hline \end{array}$ $\begin{array}{r} 6\frac{1}{3} \\ +\ \frac{2}{3} \\ \hline \end{array}$ $2\frac{5}{8}$

7

$\begin{array}{r} 5\frac{2}{5} \\ +\ \frac{3}{5} \\ \hline \end{array}$ $\begin{array}{r} 6\frac{2}{3} \\ +\ \frac{2}{3} \\ \hline \end{array}$ 6

$7\frac{1}{3}$

$\begin{array}{r} 6\frac{7}{8} \\ +\ \frac{2}{8} \\ \hline \end{array}$ $\begin{array}{r} 4\frac{3}{4} \\ +\ \frac{3}{4} \\ \hline \end{array}$ $7\frac{1}{8}$

$5\frac{2}{4} = 5\frac{1}{2}$

$\begin{array}{r} 8\frac{1}{3} \\ +\ \frac{2}{3} \\ \hline \end{array}$ $\begin{array}{r} 7\frac{1}{6} \\ +\ \frac{5}{6} \\ \hline \end{array}$ 9

8

# 178 Skill
Mixed practice,
facts thru 81

Level 5
Review
*

| | | | | | |
|---|---|---|---|---|---|
| 7 | + ___ | = | 15 | | 8 |
| 24 | + | 6 | = | ___ | 4 |
| 9 | x | 7 | = | ___ | 63 |
| 11 | - | 2 | = | ___ | 9 |
| 15 | - ___ | = | 6 | | 9 |
| 6 | + ___ | = | 14 | | 8 |
| 6 | + ___ | = | 13 | | 7 |
| 40 | = ___ | x | 5 | | 8 |
| ___ | = | 16 | - | 7 | 9 |
| ___ | x | 3 | = | 18 | 6 |
| 9 | - ___ | = | 8 | | 1 |
| ___ | x | 4 | = | 16 | 4 |
| 18 | + ___ | = | 3 | | 6 |
| 4 | x ___ | = | 32 | | 8 |
| 25 | + | 5 | = | ___ | 5 |
| 9 | x | 8 | = | ___ | 72 |
| ___ | = | 9 | + | 3 | 3 |
| 27 | + | 3 | = | ___ | 9 |

# 179 Skill
Add.,
fractions,
unlike denominators

Level 5
**
·K.K. 26

$\begin{array}{r} \frac{2}{3} \\ +\ \frac{5}{6} \\ \hline \end{array}$ $\begin{array}{r} \frac{4}{8} \\ +\ \frac{2}{4} \\ \hline \end{array}$ $\frac{9}{6} = 1\frac{1}{2}$

$\frac{8}{8} = 1$

$\begin{array}{r} \frac{5}{16} \\ +\ \frac{2}{8} \\ \hline \end{array}$ $\begin{array}{r} \frac{3}{4} \\ +\ \frac{1}{8} \\ \hline \end{array}$ $\frac{9}{16}$

$\frac{7}{8}$

$\begin{array}{r} \frac{3}{9} \\ +\ \frac{2}{3} \\ \hline \end{array}$ $\begin{array}{r} \frac{3}{6} \\ +\ \frac{1}{3} \\ \hline \end{array}$ $\frac{9}{9} = 1$

$\frac{5}{6}$

$\begin{array}{r} \frac{4}{12} \\ +\ \frac{1}{3} \\ \hline \end{array}$ $\begin{array}{r} \frac{4}{5} \\ +\ \frac{2}{10} \\ \hline \end{array}$ $\frac{8}{12} = \frac{2}{3}$

$\frac{10}{10} = 1$

# 180 Skill
Division,
dollars & cents

Level 5
**
*

| | | |
|---|---|---|
| $6\overline{)\$7.56}$ | $2\overline{)\$8.46}$ | \$1.26<br>\$4.23 |
| $7\overline{)\$8.26}$ | $3\overline{)\$7.14}$ | \$1.18<br>\$2.38 |
| $5\overline{)\$28.25}$ | $5\overline{)\$48.70}$ | \$5.65.<br>\$9.74 |
| $8\overline{)\$9.36}$ | $3\overline{)\$7.11}$ | \$1.17<br>\$2.37 |

181 Skill
Subt., mixed
num., fract.,
like denominators

Level 5
**
K.K. 46

$\begin{array}{r} 7\frac{3}{9} \\ -\ \frac{1}{9} \\ \hline \end{array}$ $\begin{array}{r} 4\frac{5}{6} \\ -\ \frac{4}{6} \\ \hline \end{array}$ $7\frac{2}{9}$

$4\frac{1}{6}$

$\begin{array}{r} 5\ \frac{3}{4} \\ -1\ \frac{1}{4} \\ \hline \end{array}$ $\begin{array}{r} 6\frac{4}{8} \\ -\ 1\frac{1}{8} \\ \hline \end{array}$ $4\frac{2}{4} = 4\frac{1}{2}$

$5\frac{3}{8}$

$\begin{array}{r} 2\frac{9}{12} \\ -\ \frac{3}{12} \\ \hline \end{array}$ $\begin{array}{r} 7\frac{7}{8} \\ -\ \frac{4}{8} \\ \hline \end{array}$ $2\frac{6}{12} = 2\frac{1}{2}$

$7\frac{3}{8}$

$\begin{array}{r} 6\frac{4}{7} \\ -\ 1\frac{3}{7} \\ \hline \end{array}$ $\begin{array}{r} 8\frac{7}{8} \\ -\ 3\frac{7}{8} \\ \hline \end{array}$ $5\frac{1}{7}$

5

# 182 Skill
Mult.,
fraction by
fraction

Level 5
**
K.K. 86

$\frac{1}{2} \times \frac{2}{4} = \_\_$ $\frac{2}{8} = \frac{1}{4}$

$\frac{3}{4} \times \frac{1}{3} = \_\_$ $\frac{3}{12} = \frac{1}{4}$

$\frac{6}{8} \times \frac{1}{5} = \_\_$ $\frac{6}{40} = \frac{3}{20}$

$\frac{5}{9} \times \frac{1}{4} = \_\_$ $\frac{5}{36}$

$\frac{4}{7} \times \frac{1}{3} = \_\_$ $\frac{4}{21}$

$\frac{7}{9} \times \frac{1}{2} = \_\_$ $\frac{7}{18}$

$\frac{4}{6} \times \frac{1}{3} = \_\_$ $\frac{4}{18} = \frac{2}{9}$

$\frac{1}{4} \times \frac{5}{8} = \_\_$ $\frac{5}{32}$

$\frac{1}{5} \times \frac{2}{3} = \_\_$ $\frac{2}{15}$

$\frac{1}{4} \times \frac{3}{12} = \_\_$ $\frac{3}{48}$

#183 Skill
Mult.,
fraction by
fraction

Level 5
Prob. 19
K.K. 87

$\frac{4}{9} \times \frac{3}{4} = \_\_$ $\frac{12}{36} = \frac{1}{3}$

$\frac{6}{7} \times \frac{2}{8} = \_\_$ $\frac{12}{56} = \frac{3}{14}$

$\frac{3}{9} \times \frac{4}{7} = \_\_$ $\frac{12}{63} = \frac{4}{21}$

$\frac{4}{8} \times \frac{3}{9} = \_\_$ $\frac{12}{72} = \frac{1}{6}$

$\frac{5}{10} \times \frac{2}{3} = \_\_$ $\frac{10}{30} = \frac{1}{3}$

$\frac{6}{9} \times \frac{2}{3} = \_\_$ $\frac{12}{27} = \frac{4}{9}$

$\frac{7}{8} \times \frac{4}{6} = \_\_$ $\frac{28}{48} = \frac{7}{12}$

$\frac{6}{8} \times \frac{2}{3} = \_\_$ $\frac{12}{24} = \frac{1}{2}$

$\frac{4}{8} \times \frac{3}{5} = \_\_$ $\frac{12}{40} = \frac{3}{10}$

$\frac{6}{10} \times \frac{2}{3} = \_\_$ $\frac{12}{30} = \frac{2}{5}$

# 184 Skill
Mixed div.
& mult.

Level 5
Review
*

| | | |
|---|---|---|
| $\begin{array}{r} 70 \\ \times\ 40 \\ \hline \end{array}$ | $\begin{array}{r} 96 \\ \times\ 50 \\ \hline \end{array}$ | 2800<br>4800 |
| $\begin{array}{r} 475 \\ \times\ 5 \\ \hline \end{array}$ | $6\overline{)311}$ | 2375<br>51 r.5 |
| $\begin{array}{r} 64 \\ \times\ 70 \\ \hline \end{array}$ | $\begin{array}{r} 83 \\ \times\ 50 \\ \hline \end{array}$ | 4480<br>4150 |
| $5\overline{)37892}$ | $7\overline{)672}$ | 7578 r.2<br>96 |
| $7\overline{)68974}$ | $\begin{array}{r} 326 \\ \times\ 6 \\ \hline \end{array}$ | 9853 r.3<br>1956 |

# Level 5 Quick Drills 185-192

**# 185 Skill** Level 5
Subt., decimals, renaming Prob. 14
K.K. 53

| | |
|---|---|
| 90.63 <br> -45.74 | 44.89 |
| 55.27 <br> -34.69 | 20.58 |
| 64.28 <br> -32.89 | 31.39 |
| 88.35 <br> -61.48 | 26.87 |
| 43.28 <br> -12.69 | 30.59 |
| 98.42 <br> -91.53 | 6.89 |
| 6.36 <br> -1.99 | 4.37 |
| 7.31 <br> -5.82 | 1.49 |

**# 186 Skill** Level 5
Div., whole number by fraction **
K.K. 108

| | |
|---|---|
| $9 \div \frac{1}{3} =$ ___ | 27 |
| $8 \div \frac{1}{4} =$ ___ | 32 |
| $6 \div \frac{1}{2} =$ ___ | 12 |
| $7 \div \frac{1}{4} =$ ___ | 28 |
| $8 \div \frac{1}{8} =$ ___ | 64 |
| $10 \div \frac{1}{5} =$ ___ | 50 |

**# 187 Skill** Level 5
**Decimal Numerals** **
*

Sample:
Twelve & nine tenths = 12.9

| | |
|---|---|
| Seven & five tenths = ______ | 7.5 |
| Sixty & six hundredths = ___ | 60.06 |
| Five & forty three hundredths = ___ | 5.43 |
| $94\frac{1}{10}$ = ___ | 94.1 |
| $8\frac{68}{100}$ = ___ | 8.68 |
| $50\frac{27}{100}$ = ___ | 50.27 |
| $26\frac{19}{100}$ = ___ | 26.19 |
| $167\frac{3}{10}$ = ___ | 167.3 |
| $38\frac{7}{10}$ = ___ | 38.7 |
| $94\frac{1}{10}$ = ___ | 94.1 |
| $8\frac{75}{100}$ = ___ | 8.75 |
| $9\frac{91}{100}$ = ___ | 9.91 |
| $17\frac{5}{10}$ = ___ | 17.5 |

**# 188 Skill** Level 5
Add., decimals, renaming Prob. 12
K.K. 28

| | | |
|---|---|---|
| 6.43 <br> + 3.58 | 3.78 <br> + 3.41 | 10.01 <br> 7.19 |
| 5.34 <br> + 2.58 | 9.11 <br> + 2.42 | 7.92 <br> 11.53 |
| 8.96 <br> + 1.31 | 7.89 <br> + 2.11 | 10.27 <br> 10.00 |
| 4.83 <br> + 3.16 | 6.44 <br> + 7.35 | 7.99 <br> 13.79 |
| 9.81 <br> + 3.17 | 6.48 <br> + 3.13 | 12.98 <br> 9.61 |
| 8.43 <br> + 6.34 | 7.80 <br> + 3.31 | 14.77 <br> 11.11 |

**# 189 Skill** Level 5
Subt., decimals Prob. 13
K.K. 52

| | | |
|---|---|---|
| .6 <br> - .3 | 1.2 <br> - .5 | .3 <br> .7 |
| 1.6 <br> - .9 | 1.7 <br> - .8 | .7 <br> .9 |
| .9 <br> - .9 | 1.8 <br> - .9 | 0 <br> .9 |
| 1.6 <br> - .7 | 1.6 <br> - .8 | .9 <br> .8 |
| 1.0 <br> - .5 | 1.1 <br> - .6 | .5 <br> .5 |
| 1.1 <br> - .3 | 1.2 <br> - .7 | .8 <br> .5 |
| 1.5 <br> - .9 | 1.5 <br> - .8 | .6 <br> .7 |

**#190 Skill** Level 5
Div., dividends thru 81, (=, < or > ) **
K.K. 143

| | |
|---|---|
| 35 ÷ 7 ○ 36 ÷ 6 | < |
| 63 ÷ 9 ○ 7 ÷ 1 | = |
| 9 ÷ 3 ○ 18 ÷ 6 | = |
| 18 ÷ 2 ○ 14 ÷ 2 | > |
| 24 ÷ 3 ○ 16 ÷ 2 | = |
| 64 ÷ 8 ○ 48 ÷ 6 | = |
| 32 ÷ 4 ○ 20 ÷ 5 | > |
| 56 ÷ 7 ○ 32 ÷ 8 | > |
| 81 ÷ 9 ○ 18 ÷ 2 | = |
| 12 ÷ 3 ○ 16 ÷ 4 | = |
| 25 ÷ 5 ○ 35 ÷ 7 | = |
| 42 ÷ 6 ○ 63 ÷ 7 | < |
| 56 ÷ 8 ○ 49 ÷ 7 | = |
| 30 ÷ 5 ○ 36 ÷ 9 | > |

**# 191 Skill** Level 5
Div., divisor or quotient missing **
K.K. 141

| | |
|---|---|
| 27 ÷ ___ = 9 | 3 |
| 72 ÷ 8 = ___ | 9 |
| 32 ÷ ___ = 4 | 8 |
| 36 ÷ 4 = ___ | 9 |
| 28 ÷ ___ = 7 | 4 |
| 64 ÷ ___ = 8 | 8 |
| 48 ÷ ___ = 8 | 6 |
| 40 ÷ 5 = ___ | 8 |
| 35 ÷ ___ = 5 | 7 |
| 56 ÷ 7 = ___ | 8 |
| 49 ÷ ___ = 7 | 7 |
| 42 ÷ ___ = 7 | 6 |
| 81 ÷ ___ = 9 | 9 |
| 72 ÷ 9 = ___ | 8 |
| 36 ÷ ___ = 4 | 9 |

758

**# 192 Skill** Level 5
Fractions, simplify **
*

Sample: $\frac{6}{12} = \frac{1}{2}$

| | |
|---|---|
| $\frac{16}{20}$ = ___ | $\frac{4}{5}$ |
| $\frac{24}{32}$ = ___ | $\frac{3}{4}$ |
| $\frac{3}{6}$ = ___ | $\frac{1}{2}$ |
| $\frac{3}{15}$ = ___ | $\frac{1}{5}$ |
| $\frac{4}{8}$ = ___ | $\frac{1}{2}$ |
| $\frac{20}{40}$ = ___ | $\frac{1}{2}$ |
| $\frac{12}{16}$ = ___ | $\frac{3}{4}$ |
| $\frac{4}{10}$ = ___ | $\frac{2}{5}$ |
| $\frac{5}{10}$ = ___ | $\frac{1}{2}$ |
| $\frac{8}{12}$ = ___ | $\frac{2}{3}$ |

## Level 5 Quick Drills 193-200

**# 193 Skill** Level 5
Div., fraction by fraction **
K.K. 106

| | |
|---|---|
| $\frac{4}{8} \div \frac{2}{3} =$ _ | $\frac{12}{16} = \frac{3}{4}$ |
| $\frac{5}{6} \div \frac{1}{3} =$ _ | $\frac{15}{6} = 2\frac{1}{2}$ |
| $\frac{5}{10} \div \frac{1}{2} =$ _ | $\frac{10}{10} = 1$ |
| $\frac{7}{8} \div \frac{2}{3} =$ _ | $\frac{21}{16} = 1\frac{5}{16}$ |
| $\frac{6}{7} \div \frac{3}{4} =$ _ | $\frac{24}{21} = 1\frac{1}{7}$ |

**# 194 Skill** Level 5
Mult., mixed numerals **
K.K. 89

| | |
|---|---|
| $2\frac{3}{4} \times 3\frac{1}{3} =$ _ | $9\frac{2}{12} = 9\frac{1}{6}$ |
| $8\frac{7}{8} \times 2\frac{3}{4} =$ _ | $24\frac{13}{32}$ |
| $1\frac{2}{9} \times 3\frac{1}{4} =$ _ | $3\frac{35}{36}$ |
| $5\frac{1}{3} \times 2\frac{5}{8} =$ _ | 14 |

**# 195 Skill** Level 5
Mult., multiples of 10 & 100 **
K.K. 66 & 67

| | |
|---|---|
| 100 x 6 = _ | 600 |
| 50 x 10 = _ | 500 |
| 6 x 800 = _ | 4800 |
| 700 x 4 = _ | 2800 |
| 50 x 30 = _ | 1500 |
| 20 x 400 = _ | 8000 |
| 60 x 60 = _ | 3600 |
| 3 x 40 = _ | 120 |
| 2 x 700 = _ | 1400 |
| 27 x 100 = _ | 2700 |
| 7 x 40 = _ | 280 |
| 56 x 100 = _ | 5600 |
| 70 x 80 = _ | 5600 |
| 30 x 90 = _ | 2700 |
| 50 x 30 = _ | 1500 |
| 3 x 400 = _ | 1200 |

**# 196 Skill** Level
Fractions, equivalent **
*

Sample: $\frac{1}{4} = \frac{3}{12}$

| | |
|---|---|
| $\frac{1}{2} = \frac{\quad}{8}$ | 4 |
| $\frac{3}{4} = \frac{\quad}{16}$ | 12 |
| $\frac{1}{5} = \frac{\quad}{15}$ | 3 |
| $\frac{1}{2} = \frac{\quad}{10}$ | 5 |
| $\frac{3}{6} = \frac{\quad}{12}$ | 6 |
| $\frac{4}{8} = \frac{\quad}{16}$ | 8 |
| $\frac{3}{6} = \frac{\quad}{18}$ | 9 |
| $\frac{10}{20} = \frac{\quad}{40}$ | 20 |
| $\frac{2}{3} = \frac{\quad}{12}$ | 8 |
| $\frac{3}{4} = \frac{\quad}{8}$ | 6 |

**# 197 Skill** Level 5
Div., dollars & cents Prob. 22
K.K. 104

| | |
|---|---|
| 43)$\overline{\$15.05}$ | \$ .35 |
| 68)$\overline{\$35.36}$ | \$ .52 |
| 83)$\overline{\$37.35}$ | \$ .45 |
| 53)$\overline{\$20.14}$ | \$ .38 |
| 83)$\overline{\$37.35}$ | \$ .45 |
| 46)$\overline{\$34.50}$ | \$ .75 |
| 76)$\overline{\$28.88}$ | \$ .38 |

**# 198 Skill** Level 5
Div., 5-digit by 1-digit, remainders **
K.K. 103

| | |
|---|---|
| 7)$\overline{94953}$ | 13,564 r.5 |
| 9)$\overline{95912}$ | 10,656 r.8 |
| 4)$\overline{35267}$ | 8816 r.3 |
| 6)$\overline{23627}$ | 3937 r.5 |
| 3)$\overline{52337}$ | 17,445 r.2 |

**# 199 Skill** Level 5
Mixed add. & subt., decimals Review
K.K. 28 & 52

| | | |
|---|---|---|
| $\begin{array}{r} .8 \\ \underline{-\ .3} \end{array}$ | $\begin{array}{r} .9 \\ \underline{-\ .7} \end{array}$ | .5<br>.2 |
| $\begin{array}{r} .7 \\ \underline{-\ .2} \end{array}$ | $\begin{array}{r} .3 \\ \underline{+\ .1} \end{array}$ | .5<br>.4 |
| $\begin{array}{r} .9 \\ \underline{+\ .3} \end{array}$ | $\begin{array}{r} .8 \\ \underline{-\ .4} \end{array}$ | 1.2<br>.4 |
| $\begin{array}{r} .8 \\ \underline{-\ .2} \end{array}$ | $\begin{array}{r} .9 \\ \underline{+\ .6} \end{array}$ | .6<br>1.5 |
| $\begin{array}{r} .6 \\ \underline{-\ .4} \end{array}$ | $\begin{array}{r} .8 \\ \underline{+\ .3} \end{array}$ | .2<br>1.1 |
| $\begin{array}{r} .7 \\ \underline{-\ .4} \end{array}$ | $\begin{array}{r} .9 \\ \underline{-\ .4} \end{array}$ | .3<br>.5 |

**# 200 Skill** Level 5
Mult., decimals, renaming **
K.K 90

| | | |
|---|---|---|
| $\begin{array}{r} .06 \\ \underline{\times\ 6} \end{array}$ | $\begin{array}{r} .07 \\ \underline{\times\ 5} \end{array}$ | .36<br>.35 |
| $\begin{array}{r} 17 \\ \underline{\times\ .08} \end{array}$ | $\begin{array}{r} .5 \\ \underline{\times\ .9} \end{array}$ | 1.36<br>.45 |
| $\begin{array}{r} .04 \\ \underline{\times\ 7} \end{array}$ | $\begin{array}{r} 3.6 \\ \underline{\times\ .04} \end{array}$ | .28<br>.144 |
| $\begin{array}{r} 6.75 \\ \underline{\times\ 5} \end{array}$ | $\begin{array}{r} .8 \\ \underline{\times\ .3} \end{array}$ | 33.75<br>.24 |
| $\begin{array}{r} 7.6 \\ \underline{\times\ .03} \end{array}$ | $\begin{array}{r} .8 \\ \underline{\times\ .9} \end{array}$ | .228<br>.72 |

858

# Level 6 Quick Drills 201-208

**# 201 Skill**
Add., 2-digit thru 6-digit, renaming
Level 6 Review *

| | | |
|---|---|---|
| 36 + 28 | 620 + 456 | 64<br>1076 |
| 4689 + 1753 | 73 + 98 | 6442<br>171 |
| 5280 + 576 | 753 + 847 | 5856<br>1600 |
| 6428 + 1956 + 87 + 742 | | 9213 |
| 86501 + 4511 + 93804 + 560897 | | 745,713 |

**# 202 Skill**
Mixed practice, add., subt. & mult.
Level 6 Review *

| | | |
|---|---|---|
| 654 - 326 | 931 - 637 | 328<br>294 |
| 3517 - 289 | 947 - 378 | 3228<br>569 |
| 256 + 931 | 427 + 237 | 1187<br>664 |
| 37248 - 11892 | 793 + 107 | 25,356<br>900 |
| 237 x 519 | | 123,003 |

**# 203 Skill**
Mixed add. & subt., decimals, renaming
Level 6 Prob. 6 & 7 K.K. 28 & 53

| | | |
|---|---|---|
| 5.8 + 7.8 | 2.97 + 1.84 | 13.6<br>4.81 |
| 5.23 - 2.95 | 9.63 - 5.74 | 2.28<br>3.89 |
| 3.49 + 28.56 | 5.9 + 6.3 | 32.05<br>12.2 |
| 9.23 - 2.58 | 8.64 - 3.75 | 6.65<br>4.89 |
| 7.92 + 8.78 | 53.28 - 2.69 | 16.70<br>50.59 |

**# 204 Skill**
Mult., decimals, renaming
Level 6 ** *

| | | |
|---|---|---|
| 93.1 x 100 = ____ | | 9310 |
| 7.556 x 10 = ____ | | 77.56 |
| 64.0 x 100 = ____ | | 6400 |
| 854 x 10 = ____ | | 8540 |
| 6.93 x 1000 = ____ | | 6930 |
| 6.628 x 10 = ____ | | 66.28 |
| .57 x 10 | 4.2 x 10 | 5.70<br>42.0 |
| .05 x .05 | 5.2 x 10 | .0025<br>52.0 |

**# 205 Skill**
Div., by 1- & 2-digits, remainders
Level 6 Review *

| | | | |
|---|---|---|---|
| 6)54 | 5)35 | 9 | 7 |
| 7)42 | 8)32 | 6 | 4 |
| 3)29 | 9)36 | 9 r.2 | 4 |
| 6)208 | | 34 r.4 | |
| 9)4621 | | 513 r.4 | |
| 62)18,662 | | 301 | |
| 32)97,393 | | 3043 r.17 | |

**# 206 Skill**
Div., dollars & cents
Level 6 Review K.K. 104

| | |
|---|---|
| 7)$38.64 | $5.52 |
| 64)$37.12 | $ .58 |
| 96)$32.64 | $ .34 |
| 43)$8.17 | $ .19 |
| 19)$7.22 | $ .38 |

**# 207 Skill**
Mult., 4-digit by 2-digit, renaming
Level 6 Prob. 8 K.K. 82

| | |
|---|---|
| 2352 x 51 | 119,952 |
| 6315 x 14 | 88,410 |
| 3489 x 16 | 55,824 |
| 5564 x 23 | 127,972 |
| 4592 x 89 | 408,688 |

**# 208 Skill**
Div., decimals by 1-digit whole numbers
Level 6 * K.K. 110

| | |
|---|---|
| 7).469 | .067 |
| 5).765 | .153 |
| 9)7.587 | .843 |
| 9)1.989 | .221 |
| 5)3.970 | .794 |
| 8)6.584 | .823 |

## Level 6 Quick Drills 209-216

| # 209 Skill<br>Div., decimals<br>by tenths | Level 6<br>Prob. 20<br>& 21<br>K.K. 145 |
|---|---|
| $.4\overline{)1.6}$ | 4. |
| $.5\overline{)1.25}$ | 2.5 |
| $.3\overline{).66}$ | 2.2 |
| $.5\overline{)25.55}$ | 51.1 |
| $.4\overline{)1.04}$ | 2.6 |
| $.9\overline{)27.99}$ | 31.1 |
| $.6\overline{).126}$ | .21 |

| # 210 Skill<br>Div., decimals<br>by hundredths | Level 6<br>Prob. 23<br>K.K. 146 |
|---|---|
| $.12\overline{)1.44}$ | 12. |
| $.33\overline{)333.3}$ | 1010. |
| $.02\overline{)5}$ | 250. |
| $2.7\overline{)272.7}$ | 101. |
| $.24\overline{)484.8}$ | 2020. |
| $.07\overline{)49}$ | 700. |

| # 211 Skill<br>Column Add.,<br>3-digit thru<br>6-digit,<br>renaming | Level 6<br>Review<br>K.K. 17 |
|---|---|
| 456526<br>829942<br>+ 897674 | 2,184,142 |
| 45604<br>24798<br>+ 7536 | 77,938 |
| 782361<br>4998<br>+ 76423 | 863,782 |
| 928<br>654<br>459<br>+ 837 | 2878 |

| # 212 Skill<br>Subt., 3-digit<br>thru 6-digit,<br>renaming | Level 6<br>Prob.<br>K.K. 4 |
|---|---|
| 4017<br>- 619 | 3398 |
| 50420<br>- 42660 | 7760 |
| 84367<br>- 38474 | 45,893 |
| 654325<br>- 76418 | 577,907 |
| 83052<br>- 75634 | 7418 |

| #213 Skill<br>Fractions,<br>simplify | Level 6<br>**<br>* |
|---|---|
| Sample: $\frac{4}{8} = \frac{1}{2}$ | |
| $\frac{25}{30}$ = ____ | $\frac{5}{6}$ |
| $\frac{15}{21}$ = ____ | $\frac{5}{7}$ |
| $\frac{36}{81}$ = ____ | $\frac{4}{9}$ |
| $\frac{42}{48}$ = ____ | $\frac{7}{8}$ |
| $\frac{21}{63}$ = ____ | $\frac{1}{3}$ |
| $\frac{12}{40}$ = ____ | $\frac{3}{10}$ |
| $\frac{9}{36}$ = ____ | $\frac{1}{4}$ |
| $\frac{45}{60}$ = ____ | $\frac{3}{4}$ |

| #214 Skill<br>Fractions,<br>simplify | Level 6<br>**<br>* |
|---|---|
| Sample: $\frac{32}{12} = 2\frac{8}{12} = 2\frac{2}{3}$ | |
| $\frac{9}{2}$ = ____ | $4\frac{1}{2}$ |
| $\frac{25}{8}$ = ____ | $3\frac{1}{8}$ |
| $\frac{41}{5}$ = ____ | $8\frac{2}{5}$ |
| $\frac{16}{3}$ = ____ | $5\frac{1}{3}$ |
| $\frac{58}{7}$ = ____ | $8\frac{2}{7}$ |
| $\frac{125}{50}$ = ____ | $2\frac{1}{2}$ |
| $\frac{48}{12}$ = ____ | 4 |
| $\frac{91}{14}$ = ____ | $6\frac{1}{2}$ |

| #215 Skill<br>Roman numerals | Level 6<br>**<br>* |
|---|---|
| Sample: VI = 6 | |
| VII = ________ | 7 |
| IX = ________ | 9 |
| XXIV = ________ | 24 |
| XV = ________ | 15 |
| XL = ________ | 40 |
| C = ________ | 100 |
| XII = ________ | 12 |
| XXVIII = ______ | 28 |
| XLII = ______ | 42 |
| XXXIV = ______ | 34 |
| XVIII = ______ | 18 |
| XC = ________ | 90 |
| CCLIV = ______ | 254 |
| XCV = ________ | 95 |

| # 216 Skill<br>Standard<br>numerals | Level 6<br>**<br>* |
|---|---|
| Sample: 9000+700+6 = 9,706 | |
| 8000 + 600 + 9 = __ | 8,609 |
| 7000 + 600 + 50 = __ | 7,650 |
| 900 + 60 + 3 = __ | 963 |
| 6000 + 800 + 30 + 2 = __ | 6,832 |
| 100 + 90 + 9 = __ | 199 |
| Twenty-nine thousand, eighty-four = ______ | 29,084 |
| Two hundred seventy-six = ______ | 276 |
| Fifty thousand, two hundred = ______ | 50,200 |
| Thirty-two thousand, two hundred, fifty-five = ______ | 32,255 |

## Level 6 Quick Drills 217-224

| # 217 Skill Mixed add. & subt., fractions, unlike denominators | Level 6 Review K.K. 25 & 49 |
|---|---|
| $\frac{2}{3} + \frac{1}{6}$ | $\frac{5}{6}$ |
| $\frac{15}{16} - \frac{5}{8}$ | $\frac{5}{16}$ |
| $\frac{3}{5} + \frac{1}{4}$ | $\frac{17}{20}$ |
| $\frac{5}{18} - \frac{1}{6}$ | $\frac{2}{18} = \frac{1}{9}$ |
| $\frac{1}{2} + \frac{2}{3}$ | $\frac{7}{6} = 1\frac{1}{6}$ |

| # 218 Skill Div., dollars & cents | Level 6 Review K.K. 104 |
|---|---|
| $36\overline{)\$88.92}$ | \$2.47 |
| $15\overline{)\$75.00}$ | \$5.00 |
| $91\overline{)\$327.60}$ | \$3.60 |
| $26\overline{)\$2.34}$ | \$ .09 |
| $15\overline{)\$3.15}$ | \$ .21 |

| # 219 Skill Mult., fractions & mixed numerals | Level 6 Prob. 9 K.K. 84, 87 & 88 |
|---|---|
| SIMPLIFY: | |
| $\frac{7}{15} \times \frac{5}{8} =$ ___ | $\frac{7}{24}$ |
| $2 \times 1\frac{5}{9} =$ ___ | $3\frac{1}{9}$ |
| $2\frac{3}{4} \times 5 =$ ___ | $13\frac{3}{4}$ |
| $\frac{2}{7} \times 1\frac{5}{9} =$ ___ | $\frac{4}{9}$ |
| $5 \times \frac{7}{8} =$ ___ | $4\frac{3}{8}$ |

| # 220 Skill Div., fractions & whole numbers | Level 6 Prob. 16 & 17 K.K. 106 107 |
|---|---|
| SIMPLIFY: | |
| $9 \div \frac{1}{3} =$ ___ | 27 |
| $12 \div \frac{1}{4} =$ ___ | 48 |
| $\frac{3}{4} \div \frac{1}{4} =$ ___ | 3 |
| $\frac{1}{3} \div \frac{2}{3} =$ ___ | $\frac{1}{2}$ |
| $10 \div \frac{1}{2} =$ ___ | 20 |

| # 221 Skill Round to nearest thousand | Level 6 ** * |
|---|---|
| Sample: 5,867 is 6,000 | |
| 7,500 ___ | 8,000 |
| 3,346 ___ | 3,000 |
| 6,560 ___ | 7,000 |
| 8,976 ___ | 9,000 |
| 5,130 ___ | 5,000 |
| 2,866 ___ | 3,000 |
| 7,653 ___ | 8,000 |
| 3,899 ___ | 4,000 |
| 4,499 ___ | 4,000 |

| # 222 Skill Square roots | Level 6 ** * |
|---|---|
| Sample $\sqrt{4} = 2$ | |
| $\sqrt{25} =$ ___ | 5 |
| $\sqrt{49} =$ ___ | 7 |
| $\sqrt{1} =$ ___ | 1 |
| $\sqrt{81} =$ ___ | 9 |
| $\sqrt{400} =$ ___ | 20 |
| $\sqrt{64} =$ ___ | 8 |
| $\sqrt{121} =$ ___ | 11 |
| $\sqrt{100} =$ ___ | 10 |
| $\sqrt{144} =$ ___ | 12 |

| # 223 Skill Exponents | Level 6 ** * |
|---|---|
| Samples: $6^2 = 6 \times 6 = 36$<br>$6^3 = 6x6x6 = 216$ | |
| $3^2 =$ ___ | 9 |
| $10^2 =$ ___ | 100 |
| $7^2 =$ ___ | 49 |
| $10^3 =$ ___ | 1000 |
| $12^2 =$ ___ | 144 |
| $9^2 =$ ___ | 81 |
| $5^3 =$ ___ | 125 |
| $2^4 =$ ___ | 16 |
| $6^3 =$ ___ | 216 |

| # 224 Skill Write decimals | Level 6 ** * |
|---|---|
| Sample:<br>Four hundredths = .04 | |
| Fifteen thousandths = ___ | .015 |
| Eighty hundredths = ___ | .80 |
| Four tenths = ___ | .4 |
| Five thousandths = ___ | .005 |
| $\frac{528}{1000} =$ ___ | .528 |
| $\frac{32}{1000} =$ ___ | .032 |
| $\frac{26}{100} =$ ___ | .26 |
| $\frac{2}{1000} =$ ___ | .002 |

E-68

## Level 6 Quick Drills 225-232

| # 225 Skill Express decimals as percents | Level 6 ** * |
|---|---|
| Sample: .13 = 13% | |
| .375 = _____ | 37.5% |
| .05 = _____ | 5% |
| .09 = _____ | 9% |
| .37 = _____ | 37% |
| .72 = _____ | 72% |
| .93 = _____ | 93% |
| .665 = _____ | 66.5% |
| .59 = _____ | 59% |
| .125 = _____ | 12.5% |
| .339 = _____ | 33.9% |

| # 226 Skill Express percents as decimals | Level 6 ** * |
|---|---|
| Sample: 12.5% = .125 | |
| 6% = _____ | .06 |
| 85% = _____ | .85 |
| 140% = _____ | 1.40 |
| 15.5% = _____ | .155 |
| 25% = _____ | .25 |
| 4% = _____ | .04 |
| 90% = _____ | .90 |
| 50% = _____ | .50 |
| 67.5% = _____ | .675 |
| 33% = _____ | .33 |

| # 227 Skill Find percents | Level 6 ** * |
|---|---|
| Sample: 42% of 500 | 500<br>x .42<br>1000<br>2000<br>210.00 |
| 25% of 80 = | 20 |
| 5% of 350 = | 17.5 |
| 34% of 15 = | 5.1 |
| 3% of 256 = | 7.68 |
| 5% of 120 = | 6 |

| # 228 Skill Mult., decimals | | Level<br>Prob<br>& 12<br>K.K. 90 |
|---|---|---|
| 3.62<br>x 5 | | 18.00 |
| | 39.04<br>x 7 | 273.28 |
| 9.06<br>x 5 | | 45.30 |
| | .03<br>x 9 | .27 |
| 6.76<br>x 6 | | 40.56 |
| | .04<br>x 8 | .32 |
| 5.6<br>x .03 | | .168 |
| | .08<br>x 7 | .56 |

| # 229 Skill Mult. & div., facts thru 81, (=, < or > ) | Level 6 Review K.K. 137 & 142 |
|---|---|
| 5 x 1 ○ 2 x 3 | < |
| 8 x 3 ○ 4 x 6 | = |
| 8 x 7 ○ 7 x 8 | = |
| 6 ÷ 2 ○ 0 ÷ 3 | > |
| 18 ÷ 3 ○ 12 ÷ 2 | = |
| 8 ÷ 4 ○ 4 ÷ 2 | = |
| 7 x 7 ○ 6 x 8 | > |
| 4 x 9 ○ 6 x 6 | = |
| 9 ÷ 3 ○ 6 ÷ 3 | > |
| 24 ÷ 8 ○ 24 ÷ 6 | < |

| # 230 Skill Mixed practice, (=, < or >) | Level 6 Prob. 25 K.K. 144 |
|---|---|
| (4 x 3) + 1 ○ (2 x 6) + 1 | = |
| (4-2) + 2 ○ (6-3) + 2 | < |
| 4 + (2x5) ○ 6 + (3x3) | < |
| 7 - (2x2) ○ 10 - (2x4) | > |
| (24÷4) ÷ 2 ○ 24 ÷ (4÷2) | < |
| 2 x (3x2) ○ (64÷8) x 0 | > |
| (6x9) x 4 ○ 6 x (9x4) | = |
| (4x2) x 3 ○ 4 x (2x3) | = |

| #231 Skill Mult., factors of 10, 100, and 1000 | | Level 6 ** K.K. 66 |
|---|---|---|
| 7<br>x 10 | 9<br>x 100 | 70<br>900 |
| 11<br>x 10 | 11<br>x 1000 | 110<br>11,000 |
| 7<br>x 1000 | 8<br>x 100 | 7000<br>800 |
| 10<br>x 1000 | 12<br>x 100 | 10,000<br>1200 |
| 8<br>x 100 | 9<br>x 10 | 800<br>90 |
| 7<br>x 100 | 12<br>x 10 | 700<br>120 |

| # 232 Skill Mult., 3-digit by 3-digit, renaming | | Level 6 ** * |
|---|---|---|
| 314<br>x 122 | | 38,308 |
| | 222<br>x 413 | 91,686 |
| 888<br>x 111 | | 98,568 |
| | 140<br>x 212 | 29,680 |
| 334<br>x 121 | | 40,414 |
| | 203<br>x 332 | 67,396 |
| 312<br>x 231 | | 72, |

# Level 6 Quick Drills 233-240

**# 233 Skill** Level 6
Div., by multiples of 10 & 100
**
*

| | |
|---|---|
| 70) 350 | 5 |
| 50) 400 | 8 |
| 40) 320 | 8 |
| 600) 5400 | 9 |
| 200) 1400 | 7 |
| 60) 360 | 6 |
| 60) 480 | 8 |
| 70) 420 | 6 |
| 700) 5600 | 8 |
| 70) 490 | 7 |

**# 234 Skill** Level 6
Division, 3-digit by 2-digit, remainders
Prob.** K.K.100

| | |
|---|---|
| 48) 137 | 3 r 13 |
| 29) 270 | 9 r 9 |
| 78 672 | 8 r 48 |
| 42) 336 | 8 |
| 62) 434 | 7 |
| 57) 425 | 7 r 26 |

**# 235 Skill** Level 6
Division, decimals
**
*

| | |
|---|---|
| 0.8) 4.8 | 6 |
| 0.4) 3.2 | 8 |
| 0.2) 14.96 | 74.8 |
| 0.1) 2.396 | 23.96 |
| 4.4) 8.932 | 2.03 |
| 5.1) 32.334 | 6.34 |

**# 236 Skill** Level 6
Roman numerals
**
*

Sample: 12 is XII

| | | |
|---|---|---|
| 2 | ______ | II |
| 9 | ______ | IX |
| 3 | ______ | III |
| 6 | ______ | VI |
| 13 | ______ | XIII |
| 17 | ______ | XVII |
| 5 | ______ | V |
| 4 | ______ | IV |
| 20 | ______ | XX |
| 24 | ______ | XXIV |
| 40 | ______ | XL |
| 35 | ______ | XXXV |
| 14 | ______ | XIV |
| 18 | ______ | XVIII |

**# 237 Skill** Level 6
Column addition, renaming
**
*

| | |
|---|---|
| 32<br>75<br>81<br>64<br>+ 38 | 290 |
| 198<br>223<br>410<br>354<br>+ 576 | 1761 |
| 176<br>245<br>283<br>591<br>+ 304 | 1599 |
| 492<br>331<br>+ 145 | 968 |
| 317<br>238<br>+ 142 | 697 |

**# 238 Skill** Level 6
Add., decimals
**
*

| | |
|---|---|
| .4 + 3.002 = ______ | 3.402 |
| .62 + .4358 = ______ | 1.0558 |
| .003 + .2 = ______ | .203 |
| .5 + .321 = ______ | .821 |
| 2.14 + .003 = ______ | 2.143 |
| .06 + .478 = ______ | .538 |
| .8 + .4 = ______ | 1.2 |

**# 239 Skill** Level 6
Mixed add. & subt., decimals
**
*

| | |
|---|---|
| .98 - .34 = ______ | .64 |
| .245 - .111 = ______ | .134 |
| .6 - .2999 = ______ | .3001 |
| .4 + 3.002 = ______ | 3.402 |
| .003 + .2 = ______ | .203 |
| .5 + .321 = ______ | .821 |
| 2.14 + .003 = ______ | 2.143 |

**#240 Skill** Level 6
Compare decimals, (=, < or > )
**
*

| | |
|---|---|
| .0326 ○ .3026 | < |
| .84 ○ .48 | > |
| .62 ○ .346 | > |
| .02 ○ .002 | > |
| .3456 ○ .456 | < |
| .72 ○ .6 | > |
| .592 ○ .704 | < |
| .8000 ○ .80 | = |
| .748 ○ .74 | > |
| .90 ○ .900 | = |

## TEXTBOOK PAGE REFERENCES FOR COMPUTATION INVENTORY ITEMS LISTED IN THE KENNEDY KIT

The Kennedy Kit, a series of cards covering 146 computation skills, is described in Part III of this series of guides, Mathematics Diagnosis, on pages 101 - 124. The Kit includes a blue Reference Card for each skill. Each Reference Card gives that skill's page references for the three basic texts used in the District: Houghton Mifflin, Mathematics for Individual Achievement, Scott Foresman, Mathematics Around Us, and Holt, Rinehart and Winston, Holt School Mathematics. The information on these Reference Cards is printed on the following pages. Chula Vista City School District teachers may note that in a few cases the page numbers printed here differ from those on the cards. In checking for errors and through use during the year, we have added and deleted some page numbers where it seemed feasible. (Note: Please see the Spanish Edition of this guide for page references to the basic Spanish text, Matemática de Silver Burdett.)

## CHULA VISTA PRESCRIPTIVE MATHEMATICS PROGRAM

## TEXTBOOK PAGE REFERENCES FOR COMPUTATION INVENTORY ITEMS LISTED IN THE KENNEDY KIT

*Page references are given for all grade levels that develop the skill, beginning with the lowest level and ending with the highest level. A dash is used if the textbook series does not develop the skill.*

NOTE: (T) Top of page (B) Bottom of page

| Item No. | Description of Skill | Item |
|---|---|---|
| C1 | Addition, basic facts through 9 | 6<br>+ 3 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 1 | 75-81, 95, 99, 101, 104 131, 133, 135-136, 139-140, 149-150, 155-156, 160(T), 257 (T) |
| 2 | 11, 43, 45, 49, 53, 81-82 |
| 3 | 2 |
| 4 | 51 (+0) |

| Scott | |
|---|---|
| Gr | Pages |
| 1 | 149-152 (horiz. & vert.), 161 (lab) |
| 2 | 19-22, 33 (lab), 92 (lab) |
| 3 | - |
| 4 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 1 | 221-224, 228 |
| 2 | 26-29(horiz. & vert.), 31-32(horiz. & vert.) |
| 3 | 47 |
| 4 | - |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C2 | Addition, basic facts through 10 | 8<br>+ 2 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 1 | 167, 253(T), 256(T) |
| 2 | 12-13, 19, 55, 83 |
| 3 | 3(T)-4, 36, 311(T) |

| Scott | |
|---|---|
| Gr | Pages |
| 1 | 153-158, 161-162 (horiz. & vert.), 195 (lab) |
| 2 | 19-22(horiz.) |
| 3 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 1 | 231-234, 238, 241 (table), 244 |
| 2 | 127, 128(+,-), 131(T, table), 137 (table) |
| 3 | 49(B) (9-13) |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C3 | Addition, basic facts through 11 | 6<br>+ 5 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 1 | 219 |
| 2 | 115-116 |

| Scott | |
|---|---|
| Gr | Pages |
| 1 | 197-201 (horiz.), 229(T) (lab) |
| 2 | 53 (horiz.), 54 |

| Holt | |
|---|---|
| Gr | Pages |
| 1 | 283-285(horiz.&vert.) |
| 2 | - |

| Item No. | Description of Skill | Item |
|---|---|---|
| C4 | Addition, basic facts through 12 | 7<br>+ 5 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 1 | 223, 226(table), 229 (lab) |
| 2 | 119-120, 122(T), 139 |
| 3 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 1 | 257-262(horiz.) |
| 2 | 55-58(horiz. & vert.) |
| 3 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 1 | 287-289(horiz. & vert.)<br>319 (T) |
| 2 | 165-168(horiz. & vert.)<br>172 (horiz. & vert.) |
| 3 | 63(6-15) |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C5 | Addition, basic facts through 18 | 9<br>+ 9 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | 143-144, 147-148, 151 (T) (table), 163-165, 167-168, 171(T)(table) |
| 3 | 25(1-10), 27-28, 33, 35(1-10), 45, 151(T), 312(T) |
| 4 | 2 |
| 5 | 5-6 |

| Scott | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | 61-64(horiz. & vert.) 92(T), 99-104(horiz. & vert.) 145(lab), 146, 147(lab), 196(lab) |
| 3 | 31(T) (lab) |
| 4 | - |
| 5 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 1 | 293-297(horiz.), 298 |
| 2 | 177-178(horiz.), 203-204 (horiz.); 213 (table), 318 |
| 3 | 65(B)-66, 68(B)(1-5), 79, 101(4-13), 110 (8-12), 324 |
| 4 | 35(T), 38, 354(T) |
| 5 | 354(T) |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C6 | Addition, column, 1-digit addends, sums less than 10 | 4<br>4<br>+ 1 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 1 | 197-202 |
| 2 | 109-114, 144(T), 148 (T), 165(T), 167-168 (B), 173-175, 185(T) |
| 3 | 25(B), 31-32, 34, 35 (11-15), 47-48, 312 (middle) |
| 4 | - |
| 5 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 1 | 231-234, 238(B), 269 (lab), 270 |
| 2 | 129, 130(lab) |
| 3 | 42, 43(25), 102(lab), 104, 127(J) |
| 4 | 36, 37(1-10), 62D, 86 |
| 5 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 1 | 215-220, 230, 240, 312(B), 316(B) |
| 2 | 107-108(horiz.), 134, 163, 171(B), 181(B), 185-186(horiz.), 209 (B), 308(B), 312(T) |
| 3 | 78, 86, 331 (78,86) |
| 4 | 50-51, 359(50) |
| 5 | 52, 354(52) |

| Item No. | Description of Skill | Item |
|---|---|---|
| C7 | Addition, 1-digit and 2-digit addends, no renaming | 57<br>+ 2 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 1 | 207-210, 261 |
| 2 | 101-104 |
| 3 | 33, 64-66 |

| Scott | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | 86(horiz.), 107(horiz.) |
| 3 | 205(5-9) |

| Holt | |
|---|---|
| Gr | Pages |
| 1 | 273, 277, 280, 316(T), 320(B) |
| 2 | 58(horiz.), 60(horiz.) 113-114(horiz.), 115-116, 121, 187, 247-248(horiz.) |
| 3 | 76(B)-77, 80-81, 331(80) |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C8 | Addition, 2-digit addends, multiples of 10, without and with renaming | 60<br>+ 40 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 1 | 203-206 |
| 2 | 97 |

| Scott | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 1 | 269,272 |
| 2 | 119 |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C9 | Addition, 1-digit addend and 2-digit addend, renaming | 39<br>+ 5 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 2 | 179-184 |
| 3 | 92-94 |
| 4 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 2 | 153-154 |
| 3 | 103 |
| 4 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 2 | 251-254 |
| 3 | 84-85, 332(88:1-5) |
| 4 | 48-49, 359(48) |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C10 | Addition, 2-digit addends, renaming | 74<br>+ 68 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 2 | 191-196, 206(lab) |
| 3 | 95-96, 189, 193-194, 315 |
| 4 | - |
| 5 | - |
| 6 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 2 | 156-158, 187, 189, 199-202, 233(T), 263, 265-266 |
| 3 | 90-93, 127(H), 205(25-29) |
| 4 | 315(1-9) |
| 5 | 62A(1-6) |
| 6 | 20(horiz.) |

| Holt | |
|---|---|
| Gr | Pages |
| 2 | 255-258 |
| 3 | 88-89, 213(1-6), 332(88:6-15) |
| 4 | - |
| 5 | - |
| 6 | - |

| Item No. | Description of Skill | Item |
|---|---|---|
| C11 | Addition, column, 2-digit addends, renaming | 26<br>19<br>+ 34 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | 75-76(no renaming) 98-100, 315(middle) |
| 4 | - |
| 5 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | 2- and 3-digit: 213, 215, 236(8-13),239(G) |
| 4 | 39(incl. 3-digit) 65E, 94(1-8): incl. 3-digit addends |
| 5 | 11(incl. 3-digit), 14(incl. 3-digit), 22-23(magic sq.), 50, 62B, 279(1-5 horiz.) |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | 96-97(T), 333(96: 1-6) |
| 4 | 56-57, 59(3-digit), 73(3-digit addends), 359(56), 360(58) |
| 5 | - |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C12 | Addition, 3-digit addends, no renaming | 634<br>+ 251 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 2 | 229, 231-232, 235 |
| 3 | 67-68, 235, 313 |
| 4 | 3 |
| 5 | 42 |
| 6 | 5 |

| Scott | |
|---|---|
| Gr | Pages |
| 2 | 279(incl. renaming) |
| 3 | 212(1-5), 205(10-14), 219(lab) |
| 4 | - |
| 5 | - |
| 6 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 2 | 195,197,199,314(T,+,-) |
| 3 | 82-83, 312(T), 331(82) |
| 4 | 52-53 |
| 5 | - |
| 6 | - |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C13 | Addition, 3-digit addends, renaming ones | 436<br>+ 218 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 2 | - |
| 3 | 101-102, 190, 316 |
| 4 | 4 |

| Scott | |
|---|---|
| Gr | Pages |
| 2 | 279 |
| 3 | - |
| 4 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 2 | |
| 3 | 90, 332(90) |
| 4 | - |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C14 | Addition, 3-digit addends, renaming tens | 394<br>+ 280 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | 195-196 |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | 96-98 |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | 92-93, 332(92) |

F-6

| Item No. | Description of Skill | Item |
|---|---|---|
| C15 | Addition, 3-digit addends, renaming ones, tens, hundreds | 567<br>+ 684 |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 3 | 197-199, 201(T), 214(T) 247(T), 321-322 | 3 | 99-100, 105(14-19), 127(I), 205(30-34), 208-209, 221(4-11), 238(D,E) | 3 | 94-95, 97(15-18), 102 (17-20), 129(B)(1-8), 197(3-6), 332(94) |
| 4 | - | 4 | 34-35 and 42-43 (incl. renaming to 1000's); 44(magic square),62C | 4 | - |
| 5 | - | 5 | 8, 62C(1-5), 8-12 (incl. horiz.) | 5 | - |
| 6 | 4 | 6 | 62A | 6 | - |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C16 | Addition, 4-digit addends, renaming ones, tens | 4123<br>+ 3598 |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 3 | - | 3 | 212, 217, 234(1-5) | 3 | 313(a's,b's), 314(1-24), 322(1-8), 323(1-5) |
| 4 | 39,48 | 4 | 33, 63F | 4 | 60 |
| 5 | 43 | 5 | 9(9-11)(magic sq.), 10(1-8)(horiz.) | 5 | 54, 359(54) |
| 6 | 35(5-digit), 36(5-digit: rename to all places) | 6 | 10-11(incl. renaming to 1000's and horiz.) | 6 | - |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C17 | Addition, column, 4-digit and 5-digit addends, renaming | 53274<br>1876<br>24930<br>+ 1752 |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 3 | - | 3 | - | 3 | 97. 98(3-digit), 312 (no renaming), 313(c's) 314(25-28), 322(9-12), 323(6-8) |
| 4 | - | 4 | 154(set 1) | 4 | 61-62 |
| 5 | - | 5 | - | 5 | 55-58, 360(56, 58,60), 361(72) |
| 6 | 41, 42(+,-) | 6 | 12, 63B | 6 | 30-31, 358(30) |

| Item No. | Description of Skill | Item |
|---|---|---|
| C18 | Addition, dollars and cents, renaming | $$\begin{array}{r}\$\;\;9.04\\16.37\\+\;123.86\\\hline\end{array}$$ |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 2 | - |
| 3 | 117,119, 121(6,7) |
| 4 | 40, 193, 194 |
| 5 | 45 |

| Scott | |
|---|---|
| Gr | Pages |
| 2 | 266 |
| 3 | 118(T)(1-10) |
| 4 | 63J |
| 5 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 2 | - |
| 3 | 99, 206(+,-), 333(99) |
| 4 | 66 |
| 5 | 56(B), 360(66) |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C19 | Addition, fractions, like denominators, sums less than 1, answers simplified | $$\begin{array}{r}\frac{1}{4}\\+\frac{1}{4}\\\hline\end{array}$$ |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 4 | |
| 5 | 219,221(+,-) |
| 6 | 27(+,-), 128 |

| Scott | |
|---|---|
| Gr | Pages |
| 4 | 336-337(horiz. mxd. +,-), 338(horiz.), 347(13-16) |
| 5 | 204,238(E) |
| 6 | 138(incl. horiz.) |

| Holt | |
|---|---|
| Gr | Pages |
| 4 | 248-249, 369(248) |
| 5 | 218-219, 366(218) |
| 6 | 166-167, 363(166) |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C20 | Addition, fractions, like denominators, sums equal to 1, answers not simplified | $$\begin{array}{r}\frac{6}{9}\\+\frac{3}{9}\\\hline\end{array}$$ |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 4 | 275 |

| Scott | |
|---|---|
| Gr | Pages |
| 4 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 4 | 264-265 |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C21 | Addition, fractions, like denominators, sums greater than 1, answers simplified | $$\begin{array}{r}\frac{7}{8}\\+\frac{3}{8}\\\hline\end{array}$$ |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 4 | - |
| 5 | 258 |
| 6 | 129-130 |

| Scott | |
|---|---|
| Gr | Pages |
| 4 | 346(7-11)(horiz.) |
| 5 | 204, 238E |
| 6 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 4 | 264-265, 371(264) |
| 5 | - |
| 6 | 177 |

| Item No. | Description of Skill |
|---|---|
| C22 | Addition, mixed and whole number addends |

Item

$$\begin{array}{r} 3\frac{7}{8} \\ +\ 3 \\ \hline \end{array}$$

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 4 | 269 |
| 5 | - |
| 6 | 29(horiz.), 106(horiz.) |

| Scott | |
|---|---|
| Gr | Pages |
| 4 | - |
| 5 | 258 |
| 6 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 4 | 266-267, 371(266) |
| 5 | 367(236) |
| 6 | - |

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| Item No. | Description of Skill |
|---|---|
| C23 | Addition, fractions and mixed numeral addends, like denominators, answers simplified |

Item

$$\begin{array}{r} 3\frac{2}{6} \\ +\ \frac{1}{6} \\ \hline \end{array}$$

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 5 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 5 | 258 |

| Holt | |
|---|---|
| Gr | Pages |
| 5 | - |

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| Item No. | Description of Skill |
|---|---|
| C24 | Addition, mixed numerals, like denominators, answers simplified |

Item

$$\begin{array}{r} 4\frac{2}{3} \\ +\ 2\frac{2}{3} \\ \hline \end{array}$$

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 5 | 259(half +, half -) |
| 6 | 149 |

| Scott | |
|---|---|
| Gr | Pages |
| 5 | 258(incl. horiz.), 260(13-21), 261 (22-33 horiz.), 302C (incl. horiz.), 302D (incl. horiz.) |
| 6 | 139-140(incl. horiz.) 175E(horiz.) |

| Holt | |
|---|---|
| Gr | Pages |
| 5 | 367(236,238) |
| 6 | - |

| Item No. | Description of Skill | Item |
|---|---|---|
| C25 | Addition, fractions, unlike denominators, sums less than 1, answers simplified | $\frac{3}{5}$<br>$+\frac{1}{10}$ |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 4 | - |
| 5 | 250-252, 253-254 (half +, half -), 256-257(half +, half -) |
| 6 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 4 | 340-341, 345(mixed +, -) |
| 5 | 206-207(incl. horiz.) 208(magic sq.), 212 (horiz.), 221(1-7, incl. horiz.), 238F (incl. horiz.),239G (incl. horiz.), 255 (1-12, horiz.) |
| 6 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 4 | 256-257, 370(256) |
| 5 | 220-223, 366(220) |
| 6 | 168-169, 363(168) |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C26 | Addition, fractions, unlike denominators, sums greater than 1, answers simplified | $\frac{2}{3}$<br>$+\frac{5}{6}$ |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 5 | 258 |
| 6 | 143-144 |

| Scott | |
|---|---|
| Gr | Pages |
| 5 | - |
| 6 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 5 | 332-333, 367(232) |
| 6 | 178(B)(incl. mixed numerals) |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C27 | Addition, mixed numerals, unlike denominators, answers simplified | $6\frac{5}{10}$<br>$+\ 2\frac{3}{5}$ |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 5 | 259-261(half +, half -) |
| 6 | 150 |

| Scott | |
|---|---|
| Gr | Pages |
| 5 | 262(incl. horiz.), 263(magic sq.), 302E (incl. horiz.) |
| 6 | 142, 143(1-8), 175F 234(11-18), 349(1-5) |

| Holt | |
|---|---|
| Gr | Pages |
| 5 | 236-239 |
| 6 | 177-178(T), 364(177) |

| Item No. | Description of Skill | Item |
|---|---|---|
| C28 | Addition, decimals, tenths and hundredths | $\begin{array}{r} 1.9 \\ +\ 1.8 \\ \hline \end{array}$ $\begin{array}{r} 2.37 \\ +\ 4.83 \\ \hline \end{array}$ |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 4 | - | 4 | 294-295, 304(set G horiz.) | 4 | - |
| 5 | - | 5 | 154-155, 171(1-9), 172(10-13), 175B, 175C (all incl. horiz.); 199(11-18) | 5 | 286-289(incl. thousandths) |
| 6 | 163 | 6 | 84-85, 101(1-8), 11A, 11B, (all incl. horiz. and thousandths) | 6 | 224-227, 366(224), 367(226), (all incl. ten thousandths). (mixed numerals) |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C29 | Subtraction, basic facts, minuends through 9 | $\begin{array}{r} 9 \\ -\ 4 \\ \hline \end{array}$ |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 1 | 87-93, 96, 100(T), 105, 134(T), 137, 141, 151, 157, 160(B), 186(B), 230(lab), 256(B), 257(B) | 1 | 149-152(horiz. & vert.) | 1 | 222(B)-224, 228, 319(B) |
| 2 | 14, 20(T), 44(T), 46(T) 48, 50, 54, 60 | 2 | 23-26(horiz.) | 2 | 33-37(horiz. & vert.), 131(B) |
| 3 | 5-8 | 3 | 17(horiz.) | 3 | 51 |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C30 | Subtraction, basic facts, minuends through 10 | $\begin{array}{r} 10 \\ -\ 8 \\ \hline \end{array}$ |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 1 | 168 | 1 | 153-158, 161-162 (horiz. & vert.), 187(lab) | 1 | 232(B)-234, 238, 244 |
| 2 | 15-16, 56 | 2 | 23-26(horiz.), 28 (horiz.), 34(lab) | 2 | - |
| 3 | 311(21-40) | 3 | - | 3 | 128(+,-) |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C31 | Subtraction, basic facts, minuends through 11 | $\begin{array}{r} 11 \\ -\ 6 \\ \hline \end{array}$ |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 1 | 220 | 1 | 197-201 (horiz.), 229(B)(lab) | 1 | 285-286(horiz. & vert.) |
| 2 | 117 | 2 | 53(horiz.), 54 | 2 | - |

| Item No. | Description of Skill | Item |
|---|---|---|
| C32 | Subtraction, basic facts, minuends through 12 | 12<br>- 3 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 1 | 224-225, 227-228, 230 |
| 2 | 121-122(B), 140 |
| 3 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 1 | 257-262(horiz.) |
| 2 | 23-26(horiz.) |
| 3 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 1 | 289-290(horiz. & vert.), 320(T) |
| 2 | 169-170 |
| 3 | 64(B) |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C33 | Subtraction, basic facts, minuends through 18 | 18<br>- 9 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | 143, 147, 151(B), 163-164, 167,171(B) |
| 3 | 29, 151(B), 312(B) |
| 4 | - |
| 5 | 11-12,14 |

| Scott | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | 61-65(horiz. & vert.), 92(B)lab, 99-104 (horiz. & vert.),167 (lab),168, 169(lab), 211(horiz.), 212(lab) |
| 3 | 31(B) (lab) |
| 4 | - |
| 5 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 1 | 294, 296(horiz.), 298(horiz. & vert.) |
| 2 | 179-180(horiz. & vert.), 205-206 (horiz. & vert.),210 (horiz.), 213(B),319 |
| 3 | 67, 68(B)(6-10),101 (14-23), 107, 110 (13-17), 325 |
| 4 | 39(B), 40(B), 41, 78, 354(B) |
| 5 | 354(B) |

| Item No. | Description of Skill | Item |
|---|---|---|
| C34 | Subtraction, 1-digit from 2-digit, no renaming | 35<br>- 2 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | - |
| 3 | 71 |

| Scott | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | 175-176(incl.renaming) |
| 3 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 1 | 278 |
| 2 | 117-118 |
| 3 | 105(3-6) |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C35 | Subtraction, 2-digit from 2-digit, no renaming | 67<br>- 34 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 1 | 211-218, 262 |
| 2 | 99, 105-107 |
| 3 | 69-70, 74(1-4) |

| Scott | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | 177-180(incl.renaming) |
| 3 | 220(1-5) |

| Holt | |
|---|---|
| Gr | Pages |
| 1 | 270,272,274,276 |
| 2 | 120, 122, 188 |
| 3 | 104-106, 333(106) |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C36 | Subtraction, 1-digit from 2-digit, renaming | 66<br>- 8 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 2 | 199-204 |
| 3 | 106-108 |

| Scott | |
|---|---|
| Gr | Pages |
| 2 | 175-176 |
| 3 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 2 | 263-266 |
| 3 | 112-113, 334(112) |

| Item No. | Description of Skill | Item |
|---|---|---|
| C37 | Subtraction, 2-digit from 2-digit, renaming | 42<br>- 27 |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 2 | 207-212 | 2 | 177-180, 188, 190, 213-218, 233(B), 264, 267-268 | 2 | 267-271, 316 |
| 3 | 109-110, 204, 317,323 | 3 | 106-109, 127(K), 220(21-25) | 3 | 114, 334(114) |
| 4 | - 4 | 4 | 315(11-19) | 4 | - |
| 5 | - | 5 | 16(1-20), 62D(incl. horiz.) | 5 | - |
| 6 | - | 6 | 21(horiz.) | 6 | - |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C38 | Subtraction, dollars and cents, renaming | $5.27<br>- 3.88 |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 3 | 118-119, 121(8,9) | 3 | 118(B)(11-25) | 3 | 144(11-14), 206(+,-), 245(15-18) |
| 4 | - | 4 | - | 4 | 363(97) |
| 5 | 51 | 5 | - | 5 | - |
| 6 | - | 6 | - | 6 | 39 |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C39 | Subtraction, 3-digit from 3-digit, no renaming | 938<br>- 437 |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 2 | 230, 233-235 | 2 | 280(incl. renaming) | 2 | 196,198,200,314(T,+,-) |
| 3 | 72-74, 235, 314 | 3 | 220(6-10) | 3 | 108-109, 315(T), 333(108) |
| 4 | 6 | 4 | - | 4 | 79-81 |
| 5 | 49 | 5 | - | 5 | - |
| 6 | 7 | 6 | - | 6 | - |

| Item No. | Description of Skill | Item |
|---|---|---|
| C40 | Subtraction, 3-digit from 3-digit renaming tens | 563<br>- 249 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 2 | - |
| 3 | 112-114, 205, 318 |
| 4 | 7 |
| 5 | 51 |

| Scott | |
|---|---|
| Gr | Pages |
| 2 | 280 |
| 3 | 114 |
| 4 | 46, 48 |
| 5 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 2 | |
| 3 | 115, 334(115) |
| 4 | 84-85, 361(84) |
| 5 | - |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C41 | Subtraction, 3-digit from 3-digit, renaming tens, hundreds | 815<br>- 378 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | 207-209, 214(B), 215 (T), 324-325 |
| 4 | - |
| 5 | 52-53 |
| 6 | 8 |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | 112-117, 123(14-19), 127(L), 220(26-30), 222-223, 231, 232(lab) 233, 236(14-19), 239 (H,J,K) |
| 4 | 94(9-16, horiz.), 154-set 2 |
| 5 | 17-18, 20, 62E, 62F 63G(horiz.), 69(1-4), 142(16-20, incl. horiz.) |
| 6 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | 120-124, 132(T)-133(T), 139(11-18), 166(B), 197(7-12), 335(120,122) |
| 4 | - |
| 5 | - |
| 6 | - |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C42 | Subtraction, numbers greater than 1000, renaming | 5533<br>- 2866 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | - |
| 4 | 41, 42 |
| 5 | - |
| 6 | 37-38, 42(5-digit) |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | 224, 234(6-10), 235 (10-12) |
| 4 | 49, 52-55, 63G, 63H, 63I |
| 5 | - |
| 6 | 16-17(incl. horiz.), 62D |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | 316-317, 322(13-20), 323(9-16) |
| 4 | 86-89, 92-94, 100, 362(86, 88, 92), 363 (100) |
| 5 | 62-66, 360(66), 361 (64,66) |
| 6 | 35-37, 358(35,37) |

| Item No. | Description of Skill | Item |
|---|---|---|
| C43 | Subtraction, fractions, like denominators, answers not simplified | $\begin{array}{r} \frac{4}{4} \\ -\frac{1}{4} \\ \hline \end{array}$ |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 4 | 265-266 |
| 5 | 220 |
| 6 | 27(+, -) |

| Scott | |
|---|---|
| Gr | Pages |
| 4 | 336-337(mxd. +, -, horiz.), 339, 346 (12-16, horiz.), 347(17-20, horiz.) |
| 5 | - |
| 6 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 4 | 250-251, 369(250) |
| 5 | - |
| 6 | - |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C44 | Subtraction, fractions, like denominators, answers simplified | $\begin{array}{r} \frac{3}{4} \\ -\frac{1}{4} \\ \hline \end{array}$ |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 5 | 220,221(half + half -) |
| 6 | 131 |

| Scott | |
|---|---|
| Gr | Pages |
| 5 | 205, 239 I |
| 6 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 5 | 224-225 |
| 6 | - |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C45 | Subtraction, fractions, like denominators sums greater than 1, answers simplified | $\begin{array}{r} \frac{8}{4} \\ -\frac{2}{4} \\ \hline \end{array}$ |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 5 | 220, 229 |

| Scott | |
|---|---|
| Gr | Pages |
| 5 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 5 | - |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C46 | Subtraction, fraction from mixed numeral, like denominators, answers simplified | $\begin{array}{r} 3\frac{4}{6} \\ -\frac{1}{6} \\ \hline \end{array}$ |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 5 | 257-261 |
| 6 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 5 | 268(incl. horiz.),<br>303G(incl. horiz.) |
| 6 | 147(incl. horiz.) |

| Holt | |
|---|---|
| Gr | Pages |
| 5 | 367(240) |
| 6 | - |

Item No. Description of Skill Item

C47 Subtraction, mixed numeral from whole number

$$\begin{array}{r} 7 \\ -\ 3\frac{1}{5} \\ \hline \end{array}$$

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 5 | - |
| 6 | 132 |

| Scott | |
|---|---|
| Gr | Pages |
| 5 | 270(incl. horiz.) |
| 6 | 148 (incl. horiz.) |

| Holt | |
|---|---|
| Gr | Pages |
| 5 | - |
| 6 | 180 |

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Item No. Description of Skill Item

C48 Subtraction, mixed numeral from mixed numeral, like denominators, renaming, answers simplified

$$\begin{array}{r} 4\frac{1}{4} \\ -\ 1\frac{3}{4} \\ \hline \end{array}$$

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 5 | - |
| 6 | 133-134 |

| Scott | |
|---|---|
| Gr | Pages |
| 5 | 271 (incl. horiz.), 303H (incl. horiz.) |
| 6 | 149 (incl. horiz.), 175G (incl. horiz.) |

| Holt | |
|---|---|
| Gr | Pages |
| 5 | 342-343, 368(242) |
| 6 | - |

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Item No. Description of Skill Item

C49 Subtraction, fractions, unlike denominators, answers simplified

$$\begin{array}{r} \frac{7}{8} \\ -\ \frac{1}{4} \\ \hline \end{array}$$

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 4 | - |
| 5 | 253-254(half +,half -)<br>256-257(half +,half -) |
| 6 | 145-146 |

| Scott | |
|---|---|
| Gr | Pages |
| 4 | 342-343, 345(mixed +,-) |
| 5 | 210 (incl. horiz.), 213 (horiz.), 239J (incl. horiz.), 239K (incl. horiz.), 255 (17-24, horiz.) |
| 6 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 4 | 258-259, 370(258) |
| 5 | 224-225, 366(224) |
| 6 | 170-171, 363(170) |

| Item No. | Description of Skill | Item |
|---|---|---|
| C50 | Subtraction, mixed numeral from mixed numeral, unlike denominators, answers simplified | $\begin{array}{r} 15\frac{5}{8} \\ -\ 7\frac{1}{2} \\ \hline \end{array}$ |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 5 | 258-281(half +,half -) |
| 6 | 147 |

| Scott | |
|---|---|
| Gr | Pages |
| 5 | 272 (incl. horiz.),<br>303 I(incl. horiz.) |
| 6 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 5 | 240 |
| 6 | - |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C51 | Subtraction, mixed numeral from mixed numeral, unlike denominators, ~~renaming~~, answers simplified | $\begin{array}{r} 14\frac{1}{6} \\ -\ 8\frac{2}{3} \\ \hline \end{array}$ |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 5 | - |
| 6 | 148, 151-152 |

| Scott | |
|---|---|
| Gr | Pages |
| 5 | 274 (incl. horiz.),<br>303J (incl. horiz.) |
| 6 | 150-151 (incl. horiz.),<br>175H (horiz.),<br>349(6-10) |

| Holt | |
|---|---|
| Gr | Pages |
| 5 | 244, 368(244) |
| 6 | 179-180, 364(179) |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C52 | Subtraction, decimals, tenths | $\begin{array}{r} .9 \\ -\ .7 \\ \hline \end{array}$ |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 4 | - |
| 5 | - |
| 6 | 164 |

| Scott | |
|---|---|
| Gr | Pages |
| 4 | 296-297 |
| 5 | - |
| 6 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 4 | - |
| 5 | 291-293 |
| 6 | - |

| Item No. | Description of Skill | Item |
|---|---|---|
| C53 | Subtraction, decimals, hundredths | 8.62<br>- 4.76 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 4 | - |
| 5 | - |
| 6 | 164 |

| Scott | |
|---|---|
| Gr | Pages |
| 4 | 296-297, 304(set H, horiz.) |
| 5 | All incl. horiz.: 158-159(incl. thous.), 171 (10-18), 172(14-17), 175D,E,F(incl. thous.) 199(19-26,incl. thou.) |
| 6 | All incl. horiz., and thousandths: 90-92, 101(10-18), 111C,D |

| Holt | |
|---|---|
| Gr | Pages |
| 4 | - |
| 5 | 291-293 |
| 6 | 228-229 (incl. ten-thousandths) |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C54 | Multiplication, basic facts with 2 | 5<br>x 2 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | 243-244 |
| 3 | 129-130, 149, 155(T) (lab) |
| 4 | 52 |

| Scott | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | 249-250(horiz.) |
| 3 | 145(T)(2;lab) |
| 4 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 1 | 301-302 |
| 2 | 277, 281 |
| 3 | 161(2's, 3's),187 (1-15) |
| 4 | - |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C55 | Multiplication, basic facts with 5 | 3<br>x 5 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 2 | 245-246 |
| 3 | 135-136, 152, 155, (B) (lab) 280(B) |

| Scott | |
|---|---|
| Gr | Pages |
| 2 | 281-282 |
| 3 | 248(1;lab) |

| Holt | |
|---|---|
| Gr | Pages |
| 2 | 277 |
| 3 | 165(B), 194-195, (E1-10) |

**Item No.** | **Description of Skill** | **Item**

C56 Multiplication, basic facts with 3

$$\begin{array}{r} 4 \\ \times\,3 \\ \hline \end{array}$$

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | - |
| 3 | 131-132, 150, 155, 279(B) |
| 4 | 52, 57, 299 |

| Scott | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | 251(horiz.), 254(2's and 3's), 284(2's and 3's)(horiz. & vert.) |
| 3 | 145(T)(3:1ab) |
| 4 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 1 | 301-302 |
| 2 | 278, 281 |
| 3 | 161(2's,3's), 191 (2's,3's) |
| 4 | 140(B) |

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**Item No.** | **Description of Skill** | **Item**

C57 Multiplication, basic facts with 0 and 1

$$\begin{array}{r} 5 \\ \times\,1 \\ \hline \end{array} \qquad \begin{array}{r} 4 \\ \times\,0 \\ \hline \end{array}$$

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 2 | - |
| 3 | 227-228 |
| 4 | 51, 52 |

| Scott | |
|---|---|
| Gr | Pages |
| 2 | - |
| 3 | 145(T)(1:1ab) |
| 4 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 2 | 286-287(horiz.) |
| 3 | 162(B 1's), 163(B 0's) |
| 4 | - |

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**Item No.** | **Description of Skill** | **Item**

C58 Multiplication, basic facts with 4

$$\begin{array}{r} 5 \\ \times\,4 \\ \hline \end{array}$$

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 2 | - |
| 3 | 133-134, 151, 279(T) |
| 4 | 52, 299 |

| Scott | |
|---|---|
| Gr | Pages |
| 2 | - |
| 3 | 145(T)(4:1ab) |
| 4 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 2 | 280 |
| 3 | 165(4's, 5's)<br>193(T)(1-15) |
| 4 | - |

| Item No. | Description of Skill | Item |
|---|---|---|
| C59 | Multiplication, basic facts with 6 | $\begin{array}{r} 8 \\ \times\ 6 \\ \hline \end{array}$ |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 3 | 229 | 3 | 248(2:lab) | 3 | 198-199 |
| 4 | 57, 65, 299 | 4 | - | 4 | - |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C60 | Multiplication, basic facts with 7 | $\begin{array}{r} 9 \\ \times\ 7 \\ \hline \end{array}$ |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 3 | 233, 280(T) | 3 | 248(3:lab) | 3 | 200-201 |
| 4 | 67 | 4 | - | 4 | - |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C61 | Multiplication, basic facts with 8 | $\begin{array}{r} 7 \\ \times\ 8 \\ \hline \end{array}$ |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 3 | 235, 243(B)(lab) | 3 | 248(4:lab) | 3 | 202-203(8's & 9's) |
| 4 | 69 | 4 | - | 4 | - |

| Item No. | Description of Skill | Item |
|---|---|---|
| C62 | Multiplication, basic facts with 9 | $\begin{array}{r}4\\ \times 9\\ \hline\end{array}$ |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | 237, 243(T)(lab), 281(T) |
| 4 | 71 |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | 248(5:lab) |
| 4 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | 202-203(8's & 9's) |
| 4 | 148(table) |

---

| Item No. | Description of Skill | Item |
|---|---|---|
| C63 | Multiplication with 10 | $\begin{array}{r}10\\ \times 5\\ \hline\end{array}$ |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | 283 |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | 272-273(horiz.) |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | 214(horiz.) |

---

| Item No. | Description of Skill | Item |
|---|---|---|
| C64 | Multiplication, basic facts, products less than 21 | $\begin{array}{r}7\\ \times 2\\ \hline\end{array}$ $\begin{array}{r}5\\ \times 3\\ \hline\end{array}$ |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | 243-245 |
| 3 | 125-132, 137, 217 |
| 4 | 11, 12 |

| Scott | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | 245-252(horiz.),254, 281-282,284 |
| 3 | 137,139(B),144,190(C) |
| 4 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 1 | 301-302 |
| 2 | 277-289 |
| 3 | 161,162(B),163(B), 165(B),182-183(7-16), 187(1-15),197(15-29), 336(164) |
| 4 | - |

| Item No. | Description of Skill | Item |
|---|---|---|
| C65 | Multiplication, basic facts, products through 81 | 9<br>x 6 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | 240(table), 243(lab), 279-281, 282(table), 319; 320, 326, 327-all T's |
| 4 | 64, 75, 78(lab), 157 |
| 5 | 18, 64-65 |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | 246-250, 253 |
| 4 | 110-112(multiples), 115(35-40)(multiples) |
| 5 | 67(mixed x, ÷, table) |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | 186-187,191(T),193(T), 195(1-10),196(B),199 (T),201(T),203,208-209(5-14),212,229(T) (1-11),256(T)(1-11), 326,337(203) |
| 4 | 147(B)(half p.), 149 (B)(lab), 151(half p.), 160, 355 |
| 5 | 6-7, 355 |

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| Item No. | Description of Skill | Item | |
|---|---|---|---|
| C66 | Multiplication with 10 and 100 as factors | 23<br>x 10 | 100<br>x 72 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | - |
| 4 | 93 |
| 5 | 19, 155 |
| 6 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | 272-273, 285(1-12) |
| 4 | 130-131(incl. 1000's) |
| 5 | 32-33(incl. 1000's) |
| 6 | 28(incl. horiz., 100,000's), 185(1-12 incl. horiz., 1000's) |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | 214, 223(horiz.) |
| 4 | Incl. x 1000: 158-159, 363(158,162), 364 (164) |
| 5 | 76-77(incl. 1000's) |
| 6 | - |

Item No. Description of Skill Item

067 Multiplication with multiples of 10 and 100

$$\begin{array}{r} 30 \\ \times\ 8 \\ \hline \end{array} \qquad \begin{array}{r} 600 \\ \times\ 4 \\ \hline \end{array}$$

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | 283-284 |
| 4 | 94-96, 98, 234-235 |
| 5 | 66 |
| 6 | 47-48 |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | 274-275, 303(G), 325(33-37) |
| 4 | 132-133, 190(A) |
| 5 | 34(1-24), 69(7-15, horiz.) |
| 6 | 29(horiz.), 62(E) |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | 215, 224-225, 245(19-42), 337(215),338(224) |
| 4 | 160, 162-165, 363 (162), 180-181(rounding), 363(164) |
| 5 | - |
| 6 | - |

---

Item No. Description of Skill Item

068 Multiplication, 2-digit by 1-digit, multiplicand between 10 and 20, no renaming

$$\begin{array}{r} 11 \\ \times\ 9 \\ \hline \end{array}$$

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | 285 |
| 4 | 99,100 (multiplicand > 10) |
| 5 | - |
| 6 | 11-12, 49; multiplicands > 10) |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | 338(218; multiplier > 20) |
| 4 | 168 |
| 5 | - |
| 6 | - |

---

Item No. Description of Skill Item

069 Multiplication, 2-digit by 1-digit, multiplicand between 10 and 20, renaming

$$\begin{array}{r} 12 \\ \times\ 7 \\ \hline \end{array}$$

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | 287-289 |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | - |

| Item No. | Description of Skill | Item |
|---|---|---|
| C70 | Multiplication, 2-digit by 1-digit, multiplicand greater than 20, renaming | 23<br>x 4 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | 277(B), 288-290, 295(T), 310(T), 328-329 |
| 4 | 103-104, 109-112, 201-202 |
| 5 | - |
| 6 | 13 |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | 276-277, 282-283 (horiz. 1-17), 303 (H, horiz.) |
| 4 | 138-139, 188(7-11), 190B(horiz.), 199-set 1(horiz.) |
| 5 | 36, 126(E) |
| 6 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | 216-217, 220-221, 338(220) |
| 4 | 172-173, 364(172) |
| 5 | 78-79 |
| 6 | - |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C71 | Multiplication, 3-digit by 1-digit, no renaming | 412<br>x 2 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | - |
| 4 | 101-102 |
| 5 | 67-68 |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | - |
| 4 | - |
| 5 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | 223-225, 228 338(228) |
| 4 | 169, 364(168) |
| 5 | - |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C72 | Multiplication, 3-digit by 1-digit, renaming to tens | 315<br>x 6 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | - |
| 4 | 113-114, 203 |
| 5 | 69-74 |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | - |
| 4 | - |
| 5 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | 226-227, 339(230) |
| 4 | - |
| 5 | - |

**No.** **Description of Skill** **Item**

Multiplication, 3-digit by 1-digit, renaming in all places

629
x 4

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | - |
| 4 | 115, 116, 119, 204-212, 214 |
| 5 | - |
| 6 | 14 |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | 280-281, 303(I) |
| 4 | 140-141, 144, 148(7-25)(horiz.), 155(1-18), 177(horiz. lab), 188(17-19,22,23) (horiz.), 190B,C,D (horiz.), 199 set 2 (horiz.), 254A(1-6), 335 |
| 5 | 37,63 I |
| 6 | 30-31(1-18) |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | 232-233, 234(10-21), 236(9-16), 237(8-15), 287(1-6), 339(232) |
| 4 | 180-181(rounding), 365(180) |
| 5 | 80-83(incl. 5-digit), 85(rounding), 361(80) |
| 6 | 58, 359(58, incl. 6-digits) |

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**Item No.** **Description of Skill** **Item**

C74 Multiplication, 2-digit by multiples of 10, renaming

28
x 30

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | - |
| 4 | 233-234 |
| 5 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | 272-275 |
| 4 | - |
| 5 | 38(incl. 3-digit), 63J, 127G(horiz.), 227(1-5) |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | - |
| 4 | 182, 366(182) |
| 5 | - |

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**Item No.** **Description of Skill** **Item**

C75 Multiplication, 2-digit by 2-digit, multiplier between 10 and 20, renaming

39
x 12

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 4 | 235-236 |

| Scott | |
|---|---|
| Gr | Pages |
| 4 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 4 | - |

| Item No. | Description of Skill | Item |
|---|---|---|
| C76 | Multiplication, 2-digit by 2-digit, multiplier greater than 20, renaming | 57<br>x 43 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 4 | 236-240 |
| 5 | 81-85 |
| 6 | 50 |

| Scott | |
|---|---|
| Gr | Pages |
| 4 | 203, 205(magic sq.) 254 B,C (horiz.) |
| 5 | 40-41, 63K (incl. horiz.) |
| 6 | 62G(1-12) |

| Holt | |
|---|---|
| Gr | Pages |
| 4 | 183-184, 366(183), 366(185) |
| 5 | 90-91 |
| 6 | - |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C77 | Multiplication, 2-digit by multiples of 100, renaming | 86<br>x 300 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 4 | - |
| 5 | - |
| 6 | 47-48, 67 |

| Scott | |
|---|---|
| Gr | Pages |
| 4 | 134-135, 136-137 (estimating), 200-201, 208-209(13-25)(est.), 254A(6-10),311A, B (horiz.) |
| 5 | 47(11-16) (est.), 63H(horiz., incl. thousands) |
| 6 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 4 | - |
| 5 | 86-88, 94-95(rounding) 362(88) |
| 6 | 60-61 |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C78 | Multiplication, 3-digit by 2-digit, renaming | 697<br>x 45 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 4 | 241-243 |
| 5 | 87-91 |
| 6 | 51-52 |

| Scott | |
|---|---|
| Gr | Pages |
| 4 | 206, 211, 254D, E (horiz.) |
| 5 | 44, 63H, 63I(incl. horiz.), 315(17-21) |
| 6 | 62G(13-24, incl. horiz.), 97(1-10) |

| Holt | |
|---|---|
| Gr | Pages |
| 4 | 185-186 |
| 5 | 362(90) |
| 6 | - |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C79 | Multiplication, dollars and cents by 1-digit multiplier, renaming | $93.06<br>x 5 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 4 | 203, 204, 206, 208, 210, 214 |
| 5 | 75 |

| Scott | |
|---|---|
| Gr | Pages |
| 4 | 151(7-20)(incl.horiz.) 190G(horiz.) |
| 5 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 4 | 177(half p.) (B) |
| 5 | - |

**Item No.** **Description of Skill** **Item** F-27

Multiplication, dollars and cents by 2-digit multiplier, renaming

$ 5.32
x 87

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 4 | 239-242 |

| Scott | |
|---|---|
| Gr | Pages |
| 4 | 254F(horiz.) |

| Holt | |
|---|---|
| Gr | Pages |
| 4 | 184-185 |

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**Item No.** **Description of Skill** **Item**

C81 Multiplication, multiplicand greater than 1000, by 1-digit multiplier, renaming

2367
x 9

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 4 | - |
| 5 | - |
| 6 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 4 | 145 |
| 5 | - |
| 6 | 62F |

| Holt | |
|---|---|
| Gr | Pages |
| 4 | 174-177, 364(174), 365(176) |
| 5 | - |
| 6 | 58-59 |

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**Item No.** **Description of Skill** **Item**

C82 Multiplication, 4-digit by 2-digit and 3-digit, renaming

4875
x 135

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 5 | - |
| 6 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 5 | 45, 63N |
| 6 | 32(incl. horiz.), 34<br>62H |

| Holt | |
|---|---|
| Gr | Pages |
| 5 | 92-93(x 3-digits)<br>96(x 3-digits) |
| 6 | 62-63(x 3-digits),<br>65-66(incl. x 4-digits)<br>359(62,65, incl. x 3- and 4-digits) |

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**Item No.** **Description of Skill** **Item**

C83 Multiplication, whole number by fraction with numerator of 1, answers simplified

$3 \times \frac{1}{4} = \square$

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 5 | 281-284 |
| 6 | 188 |

| Scott | |
|---|---|
| Gr | Pages |
| 5 | 310-311 |
| 6 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 5 | 252-253 |
| 6 | - |

| Item No. | Description of Skill | Item |
|---|---|---|
| C84 | Multiplication, whole number by fraction with numerator greater than 1, answers simplified | $7 \times \frac{3}{4} = \square$ |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 5 | 282-284, 291-292 |
| 6 | 189-190 |

| Scott | |
|---|---|
| Gr | Pages |
| 5 | 310-311, 367B |
| 6 | 180-181, 238B |

| Holt | |
|---|---|
| Gr | Pages |
| 5 | 252-253, 368(253) |
| 6 | - |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C85 | Multiplication, fraction by fraction, numerators of 1 | $\frac{1}{2} \times \frac{1}{3} = \square$ |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 5 | 285-288 |
| 6 | 191-193 |

| Scott | |
|---|---|
| Gr | Pages |
| 5 | 306-307 |
| 6 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 5 | 248-249 |
| 6 | - |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C86 | Multiplication, fraction by fraction, one with numerator of 1 and other with numerator greater than 1, answers simplified | $\frac{2}{3} \times \frac{1}{4} = \square$ |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 5 | 289-290 |
| 6 | 194 |

| Scott | |
|---|---|
| Gr | Pages |
| 5 | 306-307 |
| 6 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 5 | 250-251 |
| 6 | - |

| Item No. | Description of Skill | Item |
|---|---|---|
| C87 | Multiplication, fraction by fraction, both numerators greater than 1, answers simplified | $\frac{4}{5} \times \frac{3}{10} = \square$ |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 4 | - |
| 5 | 289 |
| 6 | 253 |

| Scott | |
|---|---|
| Gr | Pages |
| 4 | - |
| 5 | 307-308(1-20), 367A |
| 6 | 178-179, 238(A) (1-12) |

| Holt | |
|---|---|
| Gr | Pages |
| 4 | |
| 5 | 250-251, 368(250) |
| 6 | 186 |

| Item No. | Description of Skill | Item |
|---|---|---|
| C88 | Multiplication, whole number by mixed, answers simplified | $3 \times 4\frac{1}{5} = \square$ |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 5 | - |
| 6 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 5 | 318 (mixed with skill 89), 367D (mixed with skill 89) |
| 6 | 238D (incl. skill 89) |

| Holt | |
|---|---|
| Gr | Pages |
| 5 | - |
| 6 | 190 |

| Item No. | Description of Skill | Item |
|---|---|---|
| C89 | Multiplication, mixed numeral by mixed numeral, answers simplified | $2\frac{1}{2} \times 3\frac{2}{3} = \square$ |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 5 | - |
| 6 | 197-198 |

| Scott | |
|---|---|
| Gr | Pages |
| 5 | 318 and 367D (mixed with skill 88) |
| 6 | 187-188, 229(11-19), 238D (incl. skill 88), 239E (1-13), 349(11-15) |

| Holt | |
|---|---|
| Gr | Pages |
| 5 | - |
| 6 | 184-185, 187(T), 365(186) |

| **Item No.** | **Description of Skill** | **Item** | |
|---|---|---|---|
| C90 | Multiplication, decimals, tenths and hundredths | .6<br>x .6 | 9.04<br>x 7 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 5 | - |
| 6 | 203-212, 215-216 |

| Scott | |
|---|---|
| Gr | Pages |
| 5 | 329,331(incl. mxd. numerals), 332(incl. ten thous.), 333(incl. thous.,horiz.),347 (1-12,incl. thous.), 361(8-20,incl. horiz.), 363(8-15 incl. horiz.), 367E(incl. thous., horiz.) |
| 6 | Incl. mixed numerals, thous., etc., horiz. 195-198, 202, 215 (1-15), 229(1-10), 237(9-16), 239F, 239G, 239H |

| Holt | |
|---|---|
| Gr | Pages |
| 5 | - |
| 6 | - |

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| **Item No.** | **Description of Skill** | **Item** |
|---|---|---|
| C91 | Division, basic facts, divisors 2 and 3 | 3) 18 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | 149-150 |
| 4 | - |
| 5 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | 148-150(horiz.), 152 (horiz.), 162(42,43) |
| 4 | - |
| 5 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | 170-173, 187, 190-191 |
| 4 | - |
| 5 | 179-180(div. by 2,5) |

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| **Item No.** | **Description of Skill** | **Item** |
|---|---|---|
| C92 | Division, basic facts, divisors 4 and 5 | 4) 24 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | 151-154,156,222 |
| 4 | - |
| 5 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | 162(44), 265(1) |
| 4 | - |
| 5 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | 174-175,192-195 |
| 4 | - |
| 5 | 179-180(div. by 2,5) |

| Item No. | Description of Skill | Item |
|---|---|---|
| C93 | Division, basic facts, divisors 6 and 7 | $6\overline{)42}$ |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | 230(T)(6's), 234(T) (7's) |
| 4 | 66, 68 |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | 265(2,3) |
| 4 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | 198-201 |
| 4 | - |

---

| Item No. | Description of Skill | Item |
|---|---|---|
| C94 | Division, basic facts, divisors 8 and 9 | $9\overline{)36}$ |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | 236(T)(8's), 238(T) (9's), 244(lab) |
| 4 | 70,72 |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | 265(4,5) |
| 4 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | 202,204-205,208-209 (15-26),229(12-23), 240,256(18-29),327, 336(174),337(205) |
| 4 | - |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C95 | Division, 2-digit by 1-digit, quotient less than 10, remainders | $5\overline{)47}$ |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | 295(B),300-304,307 (T),310(B),331-332 |
| 4 | 159-162 |
| 5 | 117,120 |
| 6 | 18 |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | 290-293(9-38) |
| 4 | 101,115(30-33),127 (set G),309(1-20) |
| 5 | 68,252(frac. remainder) |
| 6 | 45 |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | 241-243,339(242) |
| 4 | 204 |
| 5 | - |
| 6 | - |

| Item No. | Description of Skill | Item |
|---|---|---|
| C96 | Division, 2-digit and 3-digit, by 1-digit, quotient greater than 10, no remainders | 3) 96 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | - |
| 4 | 166-168,171,173,175-180,279,283,285-289 |
| 5 | 126 |
| 6 | 19,64 |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | 238-239(B),248-249,<br>256(30-37),339(238),<br>340(248) |
| 4 | 190,194-196,197-201<br>216($),367(190,196,<br>200),368(216)($) |
| 5 | 107-112,113(4 digits) |
| 6 | 78-79(incl. 4-,5-digits),82(incl. 4-digits) |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C97 | Division, 2-digit and 3-digit by 1-digit, quotient between 10 and 20, no remainders | 9) 117 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | 239,246-247,340(246) |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C98 | Division, 2-digit and 3-digit by 1-digit, quotient greater than 10, remainders | 3) 77 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | - |
| 4 | 174,280 |
| 5 | 127-130 |
| 6 | 65-66 |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | 294-296 |
| 4 | 236-237,255G,H(horiz.)<br>263-set I (horiz.),<br>318-321,350D,E(horiz.) |
| 5 | 70,72; 74-75,93(4-11,<br>125(1-5),126A,126B,<br>126C,251(1-6)(all incl. 4-digits) |
| 6 | 46,631(incl. 4 digits)<br>125(1-5) |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | 250-251,253-255,<br>340(252,254) |
| 4 | 205(incl. 4 digits),<br>210-211(incl. 4 digits),367(204 incl. 4 digits) |
| 5 | 114,116-117 |
| 6 | 80;83-84,86,(incl. 4-digits) |

| Item No. | Description of Skill | Item |
|---|---|---|
| C99 | Division, 3-digit by 1-digit, quotient greater than 100, remainders | 6) 743 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | - |
| 4 | 281-282 |
| 5 | 132-136, 138, 140 |
| 6 | 21 |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | - |
| 4 | - |
| 5 | 126D(incl. 4-digits) |
| 6 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | 258-260,264-265 (4-19), 340(258) |
| 4 | - |
| 5 | 115 |
| 6 | - |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C100 | Division, 3-digit by 2-digit, quotient between 10 and 20, with and without remainders | 23) 443 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 5 | 167 |
| 6 | 68-71 |

| Scott | |
|---|---|
| Gr | Pages |
| 5 | - |
| 6 | 63J(1-9),97(11-17, 19-23), 234(1-7) |

| Holt | |
|---|---|
| Gr | Pages |
| 5 | - |
| 6 | - |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C101 | Division, 3-digit by 2-digit, with and without remainders | 32) 987 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | - |
| 4 | - |
| 5 | 156-162,164-167,189-190,193-194,196-198, 200 |
| 6 | 73-74 |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | 286-287(no rem.), 288-289(rem.), 296, 298(1-6), 303(J) |
| 4 | 231-233,238-239 (incl. horiz.),241,255I,J (horiz.),263 set 2 (horiz.),322-324,328 351F,G (horiz.) |
| 5 | 78,80,82,93(13-20), 117(7-10,12),127F, 227(9-13),295(9-15) |
| 6 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | - |
| 4 | - |
| 5 | 123-124,126 |
| 6 | - |

C102 Division, 4-digit by 2-digit, remainders 64) 7395

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 4 | - | 4 | 329,351I(horiz.) | 4 | 207(B),208(T)(half p.),<br>212(B),213(T)(half p.),<br>368(206) |
| 5 | - | 5 | 117(11,13-15),127H,<br>127I,251(9-12) | 5 | 125,127-131,363(112,<br>114,123) |
| 6 | 75-77,79-80(3-digit divisor) | 6 | 48,50-52,60(5-14),<br>63J(10-18),63K,125<br>(6-12) | 6 | 92 |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C103 | Division, 5-digit by 1-digit, remainders | 6) 89943 |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 5 | - | 5 | - | 5 | 118-120,363(118,120) |
| 6 | - | 6 | 47(incl. 6 digits), | 6 | 85,87(T),360(84,86) |
| | | | 63L | | |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C104 | Division, dollars and cents, 2-digit divisors, no remainders | 24) $16.08 |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 4 | - | 4 | 255K, L(incl. remainders | 4 | - |
| 5 | 192 | 5 | - | 5 | 138-139,364(138) |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C105 | Division, 5-digit by 2-digit, remainders | 26) 79239 |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 5 | - | 5 | - | 5 | 132-133,135,364(132,<br>135) |
| 6 | - | 6 | 48-52(4-digit by 2-digit), 53(5-digit by 3-digit) | 6 | 93-96,98-99,360(92,<br>94),361(96,98) |

92[illegible]

**Item No.** C106

**Description of Skill:** Division, whole number by fraction and fraction by fraction, answers simplified

**Item:** $6 \div \frac{1}{5} = \square$ $\frac{5}{6} \div \frac{2}{3} = \square$

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 6 | 251-252,255-258 | 6 | 256; 257-258,260, (incl. skill 107) | 6 | 192-194(mixed with skill 107), 365(194), 365(195) |

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**Item No.** C107

**Description of Skill:** Division, fraction by whole number, answers simplified

**Item:** $\frac{3}{5} \div 2 = \square$

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 6 | - | 6 | 257-258,260,all incl. skill 106 | 6 | 193-194,365(194), mixed with skill 106 |

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**Item No.** C108

**Description of Skill:** Division, mixed numeral by mixed numeral, answers simplified

**Item:** $3\frac{1}{2} \div 2\frac{1}{3} = \square$

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 6 | 259-260 | 6 | 302 F, 302 G | 6 | 195,365(195,mixed with skill 107) |

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**Item No.** C109

**Description of Skill:** Division, decimals, hundredths by 1-digit and 2-digit divisors, no remainders

**Item:**

$7\overline{)1.75}$

$42\overline{)216.72}$

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 6 | 265-267, 269-272 | 6 | 242-243 | 6 | 238-240 |

| Item No. | Description of Skill | Item |
|---|---|---|
| C110 | Division, decimals, thousandths, by 1-digit divisors (whole numbers), no remainders | $7\overline{)6.552}$ |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 6 | 275 |

| Scott | |
|---|---|
| Gr | Pages |
| 6 | 246, 302A |

| Holt | |
|---|---|
| Gr | Pages |
| 6 | 238-240, 368(236), 368(238) |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C111 | Addition, basic facts through 12, horizontal form, sum missing | $5 + 6 = \square$ |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 1 | 223(vert.), 225(vert.), 226(table), 229(lab), 253(B) |
| 2 | 13, 59(table), 81-83, 116 |
| 3 | 2(B), 3(B) |

| Scott | |
|---|---|
| Gr | Pages |
| 1 | 257-262 |
| 2 | 19-22, 27, 33(lab), 244 |
| 3 | 14-15,22(1,2),26(1,4), 27(7,9,12),37(1,2),62 (D:1-15) |

| Holt | |
|---|---|
| Gr | Pages |
| 1 | 287-289(horiz. & vert.) |
| 2 | 25-28, 31, 81, 131(T) (table), 165-168(horiz. & vert.),171-172(horiz. & vert.) |
| 3 | 46,48-49, 62-63(T) |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C112 | Addition, basic facts through 12, horizontal form, second addend missing | $2 + \square = 10$ |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 1 | 97(B), 101(B),144(B), (basic facts through 7 only) |
| 2 | 47(B), 78(T), 84 |
| 3 | - |
| 4 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 1 | 258,262(+,-),286(+,-) |
| 2 | 22,52,65 |
| 3 | 34-35 |
| 4 | 31(19-23) |

| Holt | |
|---|---|
| Gr | Pages |
| 1 | 111-116,131-134,143-144,225-226,235-236, 286,290 |
| 2 | 45,96 |
| 3 | - |
| 4 | - |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C113 | Addition, basic facts through 12, horizontal form, first addend missing | $\square + 4 = 11$ |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 2 | - |
| 3 | 46 |
| 4 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 2 | 52,65 |
| 3 | 34-35 |
| 4 | 31(19-23) |

| Holt | |
|---|---|
| Gr | Pages |
| 2 | 49,96 |
| 3 | - |
| 4 | - |

| Item No. | Description of Skill | Item |
|---|---|---|
| C114 | Addition, basic facts through 18, horizontal form, sum missing | $9 + 6 = \square$ |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | 143-144(vert.),147-148 (vert.),151(T)(table), 163-165(vert.),167-168 (vert.),171(T)(table) |
| 3 | 44 |
| 4 | 2 |
| 5 | - |
| 6 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | 61-64,92(T)(lab),99-104(horiz. & vert.), 145(lab),146-147,196 (lab) |
| 3 | 31(T)(lab),32,35(1: lab) |
| 4 | 20,22(table) |
| 5 | 2(1-12) |
| 6 | 2-3(+,-,lab) |

| Holt | |
|---|---|
| Gr | Pages |
| 1 | 293-296,297(table),298 |
| 2 | 177-178,203-204,209(T), 213(T)(table) |
| 3 | 65-66(T) |
| 4 | 27(T-F),34 |
| 5 | 3(T) |
| 6 | 27(B),354(T) |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C115 | Addition, numbers and basic facts through 12, relations symbol (=, < or > ) missing | 5 ○ 4 + 2 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | 4 |

| Scott | |
|---|---|
| Gr | Pages |
| 1 | 267-268 |
| 2 | 125(add. & subt., facts through 18) |
| 3 | - |
| 4 | - |
| 5 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | 97(+,-),132(+,-), 176(+,-) |
| 3 | 70(+,-) |
| 4 | 26-27(+,-) |
| 5 | - |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C116 | Addition, numbers and basic facts through 18, relations symbol (=, < or > ) missing | 6 + 8 ○ 13 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 2 | - |
| 3 | 41-42 |
| 4 | - |
| 5 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 2 | 125(add. & subt.) |
| 3 | 85(add. & subt.) |
| 4 | - |
| 5 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 2 | - |
| 3 | 70(+,-),129(9-14,+,-) |
| 4 | 35(B) |
| 5 | 17(T),47(B) |

| Item No. | Description of Skill | Item |
|---|---|---|
| C117 | Addition, basic facts through 18, parentheses, 3 addends on each side of missing relations symbol (=, < or > ) | (4+4)+3 ○ 3+(6+5) |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 1-6 | Not taught at any grade level |

| Scott | |
|---|---|
| Gr | Pages |
| 1-6 | Not taught at any grade level |

| Holt | |
|---|---|
| Gr | Pages |
| 1-6 | Not taught at any grade level |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C118 | Subtraction, basic facts, minuends through 12, horizontal form | 11 - 6 = ☐ |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 1 | 224-225(vert.),227-228(vert.),230(vert.) |
| 2 | 16,58(B),85-86 |
| 3 | 8 |

| Scott | |
|---|---|
| Gr | Pages |
| 1 | 257-262 |
| 2 | 55-58(horiz. & vert.) |
| 3 | 16-17,22(3,4),26(2,3),27(5,6,8,10,11),37(3,4),62(D:16-30) |

| Holt | |
|---|---|
| Gr | Pages |
| 1 | 289-290 |
| 2 | 33-36,82,169-170 (horiz. & vert.) |
| 3 | 50,52,64(T) |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C119 | Subtraction, basic facts, minuends through 12, horizontal form, first addend missing | 8 - ☐ = 4 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | - |
| 3 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 1 | 259,262(+,-),286(+,-) |
| 2 | - |
| 3 | 17 |

| Holt | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | 96,129-130 |
| 3 | - |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C120 | Subtraction, basic facts, minuends through 12, horizontal form, sum missing | ☐ - 3 = 6 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 2 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 2 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 2 | 96,129-130,171 |

**Item No.** C121

**Description of Skill**

Subtraction, basic facts, minuends through 18, horizontal form

**Item**

16 - 9 = ☐

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | 143(vert.),147(vert.), 151(B,vert.),163-164 (vert.),167-169(vert.) 171-172(vert.) |
| 3 | 29 |
| 4 | - |
| 5 | - |
| 6 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | 57,61-65,92(B)(lab), 99-100,102-104(horiz. & vert.),167-169, 211-212(labs) |
| 3 | 31(B)(lab),33(B),88 (14-36) |
| 4 | 21,22(table) |
| 5 | 2(13-26) |
| 6 | 2-3(+,-,lab) |

| Holt | |
|---|---|
| Gr | Pages |
| 1 | 294-296,298 |
| 2 | 179-180(horiz. & vert.), 205-206 (horiz. & vert.),210, 213(B,vert.) |
| 3 | 67(T) |
| 4 | 27(T-F),28,39(B),40 (B) |
| 5 | 3(B) |
| 6 | 34(B),354(B) |

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**Item No.** C122

**Description of Skill**

Subtraction, numbers and basic facts through 12, relations symbol (=, < or > ) missing

**Item**

12 - 4 ○ 7

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 2 | - |
| 3 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 2 | 125(add. & subt., facts through 18) |
| 3 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 2 | 97(+,-),132(+,-), 176(+,-) |
| 3 | 26-27(+,-),70(+,-) |

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**Item No.** C123

**Description of Skill**

Subtraction, numbers and basic facts through 18, relations symbol (=, < or > ) missing

**Item**

16 - 8 ○ 8

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 2 | 125(add. & subt.) |
| 3 | 85(add. & subt.) |
| 4 | - |
| 5 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 2 | - |
| 3 | 70(+,-),129(9-14, +,-) |
| 4 | 29 |
| 5 | 17(B),47(T) |

| Item No. | Description of Skill | Item |
|---|---|---|
| C124 | Mixed addition and subtraction, basic facts, sums through 12, vertical form | $\begin{array}{r} 2 \\ +\,6 \\ \hline \end{array} \quad \begin{array}{r} 11 \\ -\,5 \\ \hline \end{array}$ |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 1 | 225-228,254(T),258-260,263-264 |
| 2 | 17-18,20(B),21-23,41(T),44(B),47(T),51(T),58-59(B),62(T),73-77,90,141 |
| 3 | 9(T) |

| Scott | |
|---|---|
| Gr | Pages |
| 1 | 255(lab),256,283(lab),288(lab) |
| 2 | 29,30(lab),31(horiz.),32(horiz.),43(lab),44,46,48(lab),51(horiz.),54(B),58(lab) |
| 3 | 19-27(horiz.) |

| Holt | |
|---|---|
| Gr | Pages |
| 1 | 308,310(T),312(T),314,317 |
| 2 | 38(B),50(B),84(B),88(B),92(B),128(B),174(lab),244(lab),304(B),306(B) |
| 3 | - |

| Item No. | Description of Skill | Item |
|---|---|---|
| C125 | Mixed addition and subtraction, basic facts, sums through 12, horizontal form, sums and addends missing | $6 - \square = 4$<br>$\square + 5 = 8$ |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | - |
| 3 | 46(add. only) |

| Scott | |
|---|---|
| Gr | Pages |
| 1 | 44,80,115,151,155,198,256-257,258-259,260(lab),261(lab),262,264-266,283(lab),284,286 |
| 2 | 30-32(labs),43(lab),44,46,48(lab),51,52,53,54(T),55-57,97(lab) |
| 3 | 18-27(T),45(1-5),62(D),63(E) |

| Holt | |
|---|---|
| Gr | Pages |
| 1 | 289-290,306,308,310(vert.),312(vert.),314(vert.),317(vert.) |
| 2 | 41-44,83-84(T),85-86,87-88(T),89-90,91-92(T),96(lab),127,129-130,162,169,170(T),171(T) |
| 3 | 53-55,64(T) |

| Item No. | Description of Skill | Item |
|---|---|---|
| C126 | Mixed addition and subtraction, basic facts, sums through 18, vertical form | $\begin{array}{r} 6 \\ +\,7 \\ \hline \end{array} \quad \begin{array}{r} 15 \\ -\,6 \\ \hline \end{array}$ |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | 143,145(B),146(lab),147,149(B)-150,154,163-164,166-167,169,172(lab) |
| 3 | 30 |
| 4 | 5 |

| Scott | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | 63(B),92(lab),94,99-100(horiz.),102-104(horiz. & vert.),123(lab),124,140(lab),142 |
| 3 | 28-31(horiz. & vert.),37(horiz.),63(F),81(1-20),87(lab) |
| 4 | 24-25(table),28-29(horiz.),31(1-18)(horiz.) |

| Holt | |
|---|---|
| Gr | Pages |
| 1 | 294(horiz.),296(vert.)<br>298(horiz. & vert.) |
| 2 | 184(T)(lab),192(B),205(B),206(T),314(B) |
| 3 | 68(B),74(10-19),75(10-19),101(4-23) |
| 4 | - |

F-41

**Item No.** C127

**Description of Skill:** Mixed addition and subtraction, basic facts, sums through 18, horizontal form, sums and addends missing

**Item**

$\square - 9 = 9$

$7 + \square = 15$

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 1 | - | 1 | - | 1 | 294,296 |
| 2 | - | 2 | 61,62(lab),63(T)-65, 92(lab),94,98-100, 102-104,123-126,140 (vert.),142,143(lab) | 2 | 179,180(T),181(T), 184(B),205(T),206(B), 210,214(lab) |
| 3 | - | 3 | 28-31(horiz. & vert.), 34,35(lab),36,37,45, 61,63(G),81(1-20),87 (lab) | 3 | 67(T),69(B),72-73 (lab) |
| 4 | - | 4 | 26 | 4 | 358(28) |
| 5 | - | 5 | 3(table) | 5 | 4-5(horiz. & vert.) |
| 6 | - | 6 | 2-3 | 6 | - |

---

**Item No.** C128

**Description of Skill:** Mixed addition and subtraction, 1-digit and 2-digit, no renaming, vertical form

**Item**

$\begin{array}{r} 14 \\ +\ 3 \\ \hline \end{array} \qquad \begin{array}{r} 75 \\ -\ 70 \\ \hline \end{array}$

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 1 | - | 1 | - | 1 | 275-276,280,316(T), 320(B) |
| 2 | - | 2 | - | 2 | 124,126,138(B),190, 192(B),308(T),312(B), 314 |

---

**Item No.** C129

**Description of Skill:** Mixed addition and subtraction, 1-digit and 2-digit, renaming, vertical form

**Item**

$\begin{array}{r} 18 \\ +\ 4 \\ \hline \end{array} \qquad \begin{array}{r} 32 \\ -\ 9 \\ \hline \end{array}$

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 2 | 221 | 2 | 233-234,237,240(lab), 269-272,283,286 | 2 | 276 |

---

**Item No.** C130

**Description of Skill:** Mixed addition and subtraction, 1-digit, 2-digit and 3-digit, renaming, vertical form

**Item**

$\begin{array}{r} 285 \\ -\ 29 \\ \hline \end{array} \qquad \begin{array}{r} 326 \\ +\ 7 \\ \hline \end{array}$

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 2 | 235 | 2 | - | 2 | 272 |
| 3 | - | 3 | 120-121(lab) | 3 | 130,281(B) |
| 4 | - | 4 | - | 4 | - |
| 5 | 55 | 5 | - | 5 | - |

**Item No.** C131

**Description of Skill** Mixed addition and subtraction, fractions, like denominators, horizontal and vertical forms, sums less than or equal to 1

**Item**

$$\begin{array}{r}\frac{1}{2}\\ +\ \frac{1}{2}\\ \hline\end{array} \qquad \begin{array}{r}\frac{5}{6}\\ +\ \frac{1}{6}\\ \hline\end{array}$$

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 4 | 264-267 |

| Scott | |
|---|---|
| Gr | Pages |
| 4 | 336-337,351 |

| Holt | |
|---|---|
| Gr | Pages |
| 4 | - |

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**Item No.** C132

**Description of Skill** Multiplication, basic facts, products through 25, horizontal form, product missing

**Item**

5 x 3 = ☐

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 2 | - |
| 3 | 130,132,137,220 |
| 4 | - |
| 5 | 17 |

| Scott | |
|---|---|
| Gr | Pages |
| 2 | 245-252,255,284 |
| 3 | 130-136,139(T),144 |
| 4 | - |
| 5 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 2 | 277-289 |
| 3 | 156-160,161(T),162(T),163(T),164 |
| 4 | 134-135(using 0),136-137(using 1),138(using 2),140(using 3) |
| 5 | - |

---

**Item No.** C133

**Description of Skill** Multiplication, basic facts, products through 25, horizontal form, either factor or product missing

**Item**

6 x ☐ = 24

☐ x 5 = 20

7 x 3 = ☐

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 2 | - |
| 3 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 2 | - |
| 3 | 158 |

| Holt | |
|---|---|
| Gr | Pages |
| 2 | 291-293,294(lab) |
| 3 | 158-159,168-169,192(B),198(2,3) |

---

**Item No.** C134

**Description of Skill** Multiplication, basic facts, products through 81, horizontal form, product missing

**Item**

8 x 9 = ☐

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | 240(lab) |
| 4 | - |
| 5 | - |
| 6 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | 242-244(1-20),246-247,249(1-12),250,253,270(lab),271(1-8) |
| 4 | 84-87,89,96-97,99,104-107,109,115(1-22),126 B,D,228:all above mixed ÷, x |
| 5 | 30 |
| 6 | 26 |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | 186-187,190,192,194,198,200 |
| 4 | 126-128,133(table),142(using 4 and 5),146(using 6,7,8),148(using 9),149(lab) |
| 5 | 188-189(multiples) |
| 6 | 51,355 |

| Item No. | Description of Skill | Item F-43 |
|---|---|---|
| C135 | Multiplication, basic facts, products through 81, horizontal form, either factor or product missing | 7 x □ = 49<br>□ x 8 = 72<br>6 x 7 = □ |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | - |
| 4 | - |
| 5 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | 251,300,302(B) |
| 4 | 88,115(23-29),128A |
| 5 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | 190-192,194,198,200, 202 |
| 4 | - |
| 5 | 74-75 |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C136 | Multiplication, basic facts, products through 25, relations symbol (=, < or > ) missing | 3 x 4 ○ 2 x 6<br>3 fives ○ 4 threes |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | 145,237(31-34) |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | - |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C137 | Multiplication, basic facts, products through 81, relations symbol (=, < or > ) missing | 8 x 8 ○ 9 x 7<br>7 sixes ○ 5 eights |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | 299 |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | 248,302(A) |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | - |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C138 | Division, basic facts, dividends through 25, horizontal form, quotients missing | 24 ÷ 4 = □ |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | 143-147,149-150,153, 218,221,223 |
| 4 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | 148-157,190(E,F:1-5), 264 |
| 4 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | 170,172(13-24),173-174,175(4-19),182-183 (17-24),187(16-27), 191(19-34),197(30-41), 336(174) |
| 4 | 134-135(using 0),136-137(using 1),138(using 2),140(using 3) |

| Item No. | Description of Skill | Item |
|---|---|---|
| C139 | Division, basic facts, dividends through 25, horizontal form, either divisor or quotient missing | 24 ÷ □ = 4<br>24 ÷ 6 = □ |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | - |
| 4 | 13 |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | 159 |
| 4 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | - |
| 4 | - |

---

| Item No. | Description of Skill | Item |
|---|---|---|
| C140 | Division, basic facts, dividends through 81, horizontal form, quotients missing | 81 ÷ 9 = □ |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | 240(B),244(lab),297, 320(B),326(B)-327(B), 330 |
| 4 | 66,68,70(⟌),72(⟌), 73-74,76,155(⟌),156-157 |
| 5 | 21;115-116(⟌) |
| 6 | 17(⟌) |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | 199(25-48),237(14-19, 25-29),254-259,265, 271(17-24),302(E) |
| 4 | 90-93,94(1-20);96-97, 99,104-107,109,115(1-22),126B,126D,228,all (mixed ÷,x) |
| 5 | 66(lab),67(mixed ÷,x table) |
| 6 | 44(table) |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | 193(16-27),195(14-25), 199(16-31),201(B),204-205,208(15-26),209(15-26),229(12-23),240,327, 337(205) |
| 4 | 129-131;140(B),143(B), 147(B),151(B),all half p.;191(⟌),193(⟌),356 |
| 5 | 8-9(⟌),104-105(⟌). 180-181,356 |
| 6 | 75(B),356 |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C141 | Division, basic facts, dividends through 81, horizontal form, either divisor or quotient missing | 72 ÷ 8 = □<br>63 ÷ □ = 9 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 1-6 | Not taught at any grade level |

| Scott | |
|---|---|
| Gr | Pages |
| 1-6 | Not taught at any grade level |

| Holt | |
|---|---|
| Gr | Pages |
| 1-6 | Not taught at any grade level |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C142 | Division, basic facts, dividends through 25, relations symbol (=, < or > ) missing | 25 ÷ 5 ○ 24 ÷ 3 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 1-6 | Not taught at any grade level |

| Scott | |
|---|---|
| Gr | Pages |
| 1-6 | Not taught at any grade level |

| Holt | |
|---|---|
| Gr | Pages |
| 1-6 | Not taught at any grade level |

| Item No. | Description of Skill | Item |
|---|---|---|
| C143 | Division, basic facts, dividends through 81, relations symbol (=, < or > ) missing | 72 ÷ 8 ○ 81 ÷ 9 |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 1-6 | Not taught at any grade level | 1-6 | Not taught at any grade level | 1-6 | Not taught at any grade level |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C144 | Mixed addition, subtraction, multiplication, division; parentheses, 3 addends, factors, etc., on each side of missing relations symbol (=, < or > ) | 7x(6+7) ○ (8+5)x4 |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 1-6 | Not taught at any grade level | 1-6 | Not taught at any grade level | 1-6 | Not taught at any grade level |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C145 | Division, decimals by tenths | $.9\overline{)3.6}$ $.8\overline{).72}$ |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 6 | 274-275 | 6 | 244-245 | 6 | 238-240 |

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| Item No. | Description of Skill | Item |
|---|---|---|
| C146 | Division, decimals by tenths, hundredths | $.47\overline{)103.4}$ |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 6 | 276(divisor 2.3,etc.) | 6 | 244-245,247,273(19-32),302B,C,D | 6 | 238-239(incl. mixed numerals, 100ths) |

## TEXTBOOK PAGE REFERENCES FOR COMPUTATION INVENTORY ITEMS NOT IN KENNEDY KIT

The Computation Inventories Levels I - VII are described and reproduced in Part III of this series of guides, Mathematics Diagnosis, on pages 21 - 42. There is an Answer Key for each inventory. This Answer Key is cross-referenced with the 146 computational skills covered in the Kennedy Kit.* For example, on the Level I Computation Inventory, Item 14 (9 - 5 = ☐ ) is cross-referenced with Skill 118, Subtraction, basic facts, minuends through 12, horizontal form. If pupils need help with this type of item, teachers can look up the blue Reference Card for Skill 118 and find appropriate page references for teaching that skill in all grades of the District's three basic math textbook series. However, there are some items on the inventories for which there are no Kennedy Kit cards and, consequently, no page references to turn to for help. For example, Item 15 on the Level I inventory (15 - 5 = ☐ ) has an asterisk next to it indicating that there are no Kennedy Kit cards for it. In order to help teachers find material to use in teaching such skills, the following list of all such items was prepared, together with the appropriate page references for all grades in the three textbook series.

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* The Kennedy Kit is described in Part III of this series of guides, Mathematics Diagnosis, on pages 101 - 124.

# CHULA VISTA PRESCRIPTIVE MATHEMATICS PROGRAM

## Textbook Page References For Computation Inventory Items Not In Kennedy Kit

## Page References for Computation Items, Level I and Levels V-VII

### Computation, Level I

| Item No. | Description of Skill | Item |
|---|---|---|
| 7 | Addition, horizontal, 1-digit to 2-digit (not basic fact) | $16 + 3 = \square$ |

| Houghton Mifflin | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | 33 (Vertical), 38 |
| 4 | - |
| 5 | - |
| 6 | - |
| 7 | - |

| Scott | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | - |
| 7 | - |

| Holt | |
|---|---|
| Grade | Pages |
| 1 | 155-159 |
| 2 | 113-115, 248 |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | - |
| 7 | - |

### Computation, Level I

| Item No. | Description of Skill | Item |
|---|---|---|
| 11 | Addition, 2-digit addends, no renaming | $\begin{array}{r} 52 \\ \underline{+33} \end{array}$ |

| Houghton Mifflin | |
|---|---|
| Grade | Pages |
| 1 | 207-210, Bonus Practice Pages 17-18 |
| 2 | 97-98, 101-104, Bonus Practice Pages 16-17 |
| 3 | 64-65, 75-76 |
| 4 | 3 |
| 5 | 42 |
| 6 | 5 |
| 7 | 4 (1-8) |

| Scott | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | - |
| 7 | - |

| Holt | |
|---|---|
| Grade | Pages |
| 1 | 269, 272-273, 276 |
| 2 | 119, 121, 247, 308, 312 |
| 3 | 80-81 |
| 4 | - |
| 5 | - |
| 6 | - |
| 7 | - |

## Computation, Level I

| Item No. | Description of Skill | Item |
|---|---|---|
| 15 | Subtraction, horizontal, 1-digit from 2-digit (not basic fact) | 15 - 5 = ☐ |

| Houghton Mifflin | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | 38 |
| 4 | - |
| 5 | - |
| 6 | - |
| 7 | - |

| Scott | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | - |
| 7 | - |

| Holt | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | - |
| 7 | - |

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## Computation, Level V

| Item No. | Description of Skill | Item |
|---|---|---|
| 2 | Addition, horizontal, 3-digit addends, renaming | 625 + 347 = ____ |

| Houghton Mifflin | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | - |
| 7 | 37 |

| Scott | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | 96, 100, 212, 215, 238 (Set E |
| 4 | 40-44, 63 (Set F) |
| 5 | 8-10, 62 (Set C |
| 6 | 11, 62 (Set B) |
| 7 | 11, 62 (Set A) |

| Holt | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | - |
| 7 | - |

| Item No. | Description of Skill | Item |
|---|---|---|
| 24 | Decimal fractions, comparison of tenths and hundredths; use correct relations symbol ( =, < or > ) | .5 ○ .49 |

| Houghton Mifflin | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | 299-304 |
| 6 | 161-162 |
| 7 | 194-197,<br>393 (1-32) |

| Scott | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | 292 |
| 5 | 130-134, 140-142, 175 (Set A) |
| 6 | 71-73 |
| 7 | 88-90 |

| Holt | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | 272-275, 281-283,<br>369 (Set 282) |
| 6 | 210-211, 216-219,<br>366 (Set 218) |
| 7 | 196-197,<br>400 (Set 196) |

## Computation, Level V

| Item No. | Description of Skill | Item |
|---|---|---|
| 25 | Fractions, comparison of unlike fractions; use correct relations symbol (=, < or > ) | $\frac{1}{5}$ ○ $\frac{3}{10}$ |

| Houghton Mifflin | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | 208-212, 215-216 |
| 6 | 25-26 |
| 7 | 136, 386 (29-56) |

| Scott | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | 314-315 |
| 4 | 334 |
| 5 | 197-198 |
| 6 | 129-131,<br>174 (Set D) |
| 7 | 224-225 |

| Holt | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | 272-273 |
| 4 | 238-239, 242,<br>253-255 |
| 5 | 198-201,<br>366 (Set 226) |
| 6 | 155-156, 158-159,<br>362 (Set 158) |
| 7 | 146, 148-149 |

Computation, Level VI

| Item No. | Description of Skill | Item |
|---|---|---|
| 1 | Addition, horizontal, 3 addends, renaming | 65 + 5 + 90 = ____ |

| Houghton Mifflin | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | 49 |
| 5 | 8 |
| 6 | - |
| 7 | 37 |

| Scott | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | 215 |
| 4 | 39, 45, 63 (Set E) |
| 5 | 10, 62 (Set B) |
| 6 | 62 (Set B) |
| 7 | 11, 62 (Set A) |

| Holt | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | 36-37 |
| 5 | - |
| 6 | - |
| 7 | - |

Computation, Level VI

| Item No. | Description of Skill | Item |
|---|---|---|
| 12 | Multiplication, decimal fractions, hundredths by whole number; need to annex zeros in product | .02<br>x 3 |

| Houghton Mifflin | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | - |
| 7 | 230 |

| Scott | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | 332-333, 340-341, 361 |
| 6 | 195, 198-199, 215, 239 (Set G) |
| 7 | 106-107,<br>126 (Set D)<br>192 (Sets F&G) |

| Holt | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | 230-231,<br>367 (Set 230) |
| 7 | 204-205<br>402 (Set 204) |

Computation, Level VI

| Item No. | Description of Skill | Item |
|---|---|---|
| 13 | Multiplication, decimal fractions horizontal, mixed numeral by tenths | 1.2 x .8 = ____ |

| Houghton Mifflin | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | - |
| 7 | - |

| Scott | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | 329, 331 |
| 6 | 197 |
| 7 | 104-105,<br>126 (Set C)<br>191 (Set C) |

| Holt | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | 230 |
| 7 | 204<br>401 (Set 204) |

Computation, Level VI

| Item No. | Description of Skill | Item |
|---|---|---|
| 14 | Multiplication, decimal fractions, hundredths by hundredths; need to annex zeros in product | .37<br>x.19 |

| Houghton Mifflin | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | - |
| 7 | 230-232<br>395-396 |

| Scott | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | 332 |
| 6 | 198-199, 215<br>239 (Set G) |
| 7 | 106-107,<br>126 (Set D)<br>192 (Sets F&G) |

| Holt | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | 232-233<br>367 (Set 232) |
| 7 | 204-205<br>402 (Set 204) |

**Item No.** 25

**Description of Skill**

Division, dividends through 81, divisors with remainders, relations symbol (=, < or >) missing

**Item**

$41 \div 6 \bigcirc 36 \div 7$

| Houghton Mifflin | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | 300-304 |
| 4 | 159-163 |
| 5 | 117-121 |
| 6 | 18 |
| 7 | 14 |

| Scott | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | 290-293 |
| 4 | 100-101,<br>127 (Set G) |
| 5 | 68-69<br>126 (Set A) |
| 6 | 45 |
| 7 | - |

| Holt | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | 241-243 |
| 4 | 204-205 |
| 5 | 114 |
| 6 | 80 |
| 7 | - |

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## Computation, Level VII

**Item No.** 3

**Description of Skill**

Multiplication, 4-digit by 4-digit with renaming

**Item**

$$\begin{array}{r} 6408 \\ \underline{\times 1579} \end{array}$$

| Houghton Mifflin | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | - |
| 7 | 55 (3-digit)<br>381 (11-25)<br>(3-digit) |

| Scott | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | - |
| 7 | - |

| Holt | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | 92-93 |
| 6 | 60-61, 65-66,<br>359 (Set 65) |
| 7 | 42 (3-digit)<br>392 (Set 42)<br>(3-digit) |

## Computation, Level VII

| Item No. | Description of Skill | Item |
|---|---|---|
| 4 | Division, 6-digit by 3-digit, remainders | $779\overline{)402,836}$ |

| Houghton Mifflin | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | 79-80 |
| 7 | 74, 384 (1-20) (3-digit) |

| Scott | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | 53, 63 (Set M) |
| 7 | 48, 63 (Set H)<br>128 (Set C) |

| Holt | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | 131 |
| 6 | 88-89, 100-103, 361 (Set 102) |
| 7 | 50-51<br>394 (Set 48) (2-digit) |

## Computation, Level VII

| Item No. | Description of Skill | Item |
|---|---|---|
| 5 | Addition, fractions, mixed numerals, column, renaming | $\begin{array}{r} 9\frac{9}{16} \\ 3\frac{1}{4} \\ +7\frac{3}{8} \\ \hline \end{array}$ |

| Houghton Mifflin | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | - |
| 7 | - |

| Scott | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | 266-267 |
| 6 | 139, 142 |
| 7 | 226-227 |

| Holt | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | 222-223, 233, 366 (Sets 218, 220) |
| 6 | - |
| 7 | 164-165 |

| Item No. | Description of Skill | Item |
|---|---|---|
| 7 | Multiplication, fractions, 3 factors | $\frac{5}{6} \times \frac{1}{5} \times \frac{3}{4} =$ ____ |

| Houghton Mifflin | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | - |
| 7 | 173-174 |

| Scott | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | 188, 239 (Set E) |
| 7 | 238-240 |

| Holt | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | 248-251 |
| 6 | 187 |
| 7 | 168-170 |

---

## Computation, Level VII

| Item No. | Description of Skill | Item |
|---|---|---|
| 10 | Addition, decimal fractions, 5 places, horizontal, need to align addends | 13.67 + 3.3 + .448 = ____ |

| Houghton Mifflin | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | 163 |
| 7 | 203, 207 |

| Scott | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | 155, 164 |
| 6 | 85, 87, 111 (Set B) |
| 7 | 92-93,<br>126 (Set A)<br>191 (Set A) |

| Holt | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | 287, 289 |
| 6 | 226-227,<br>367 (Set 226) |
| 7 | 202 |

## Computation, Level VII

| Item No. | Description of Skill | Item |
|---|---|---|
| 11 | Subtraction, decimal fractions, 4 places, horizontal, need to allign | .0903 - .086 = ___ |

| Houghton Mifflin | |
|---|---|
| **Grade** | **Pages** |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | 164 |
| 7 | 204-205 |

| Scott | |
|---|---|
| **Grade** | **Pages** |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | 159, 175 (Sets E & F) |
| 6 | 92, 111 (Set D) |
| 7 | 94-95,<br>126 (Set B),<br>191 (Set B) |

| Holt | |
|---|---|
| **Grade** | **Pages** |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | 292-293 |
| 6 | 228-229,<br>367 (Set 228) |
| 7 | 203 |

## Computation, Level VII

| Item No. | Description of Skill | Item |
|---|---|---|
| 12 | Subtraction, decimal fractions, 4 places, need to annex zero in minuend | .847<br>-.5394 |

| Houghton Mifflin | |
|---|---|
| **Grade** | **Pages** |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | 164 |
| 7 | 205, 394 (33-50) |

| Scott | |
|---|---|
| **Grade** | **Pages** |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | 159, 175 (Sets C & D) |
| 6 | 92, 111 (Set D) |
| 7 | 94-95,<br>126 (Set B),<br>191 (Set B) |

| Holt | |
|---|---|
| **Grade** | **Pages** |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | 228-229,<br>367 (Set 228) |
| 7 | 203 |

| Item No. | Description of Skill | Item |
|---|---|---|
| 13 | Multiplication, decimal fractions, hundredths by hundredths, need to annex zero in product | .08 x .92 = ____ |

| Houghton Mifflin | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | - |
| 7 | - |

| Scott | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | 333, 347,<br>367 (Set E) |
| 6 | 198-199, 215,<br>239 (Set G) |
| 7 | 106-107,<br>126 (Set D)<br>192 (Sets F&G) |

| Holt | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | 232-233,<br>367 (Set 232) |
| 7 | 204-205<br>402 (Set 204) |

Computation, Level VII

| Item No. | Description of Skill | Item |
|---|---|---|
| 14 | Multiplication, decimal fractions, thousandths by hundredths, need to annex zeros in product | .007<br>x.04 |

| Houghton Mifflin | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | - |
| 7 | 230-232, 395-396 |

| Scott | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | 332 |
| 6 | 198-199, 215,<br>239 (Set G) |
| 7 | 106-107,<br>126 (Set D)<br>192 (Sets F&G) |

| Holt | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | 232-233,<br>367 (Set 232) |
| 7 | 204-205<br>402 (Set 204) |

| Item No. | Description of Skill | Item |
|---|---|---|
| 17 | Multiplication, exponential notation, rename power of 10 as standard numeral | $10^4 =$ _____ |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Grade | Pages | Grade | Pages | Grade | Pages |
| 1 | - | 1 | - | 1 | - |
| 2 | - | 2 | - | 2 | - |
| 3 | - | 3 | - | 3 | - |
| 4 | - | 4 | - | 4 | - |
| 5 | - | 5 | - | 5 | - |
| 6 | - | 6 | 108-109 | 6 | 6-7 |
| 7 | 56 | 7 | 26-27 | 7 | 13-15, 206-207 |

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Computation, Level VII

| Item No. | Description of Skill | Item |
|---|---|---|
| 18 | Multiplication, power of 10 by decimal fraction | $10^3 \times 6.42 =$ _____ |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Grade | Pages | Grade | Pages | Grade | Pages |
| 1 | - | 1 | - | 1 | - |
| 2 | - | 2 | - | 2 | - |
| 3 | - | 3 | - | 3 | - |
| 4 | - | 4 | - | 4 | - |
| 5 | - | 5 | - | 5 | - |
| 6 | - | 6 | - | 6 | - |
| 7 | - | 7 | 108, 126 (Set E) | 7 | - |

## nputation, Level VII

| Item No. | Description of Skill | Item |
|---|---|---|
| 19 | Addition, positive and negative integers | $^{+}16 + {}^{-}12 =$ ____ |

**Houghton Mifflin**

| Grade | Pages |
|---|---|
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | - |
| 7 | 340-345, 403 |

**Scott**

| Grade | Pages |
|---|---|
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | 328-333,<br>338-339,<br>367 (Set C) |
| 7 | 366-369,<br>382 (Set C)<br>383 (Set A) |

**Holt**

| Grade | Pages |
|---|---|
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | 338-339,<br>341-343,<br>370 (Sets 338 & 342) |
| 7 | 310-314,<br>332 (1-26),<br>333 (1-8) |

## Computation, Level VII

| Item No. | Description of Skill | Item |
|---|---|---|
| 20 | Subtraction, positive and negative integers | $0 - {}^{-}6 =$ ____ |

**Houghton Mifflin**

| Grade | Pages |
|---|---|
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | - |
| 7 | 346-349, 404 |

**Scott**

| Grade | Pages |
|---|---|
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | 334-335,<br>338-339,<br>367 (Set D) |
| 7 | 370-371<br>382 (Set D)<br>383 (Set B) |

**Holt**

| Grade | Pages |
|---|---|
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | 344-345 |
| 7 | 316-317<br>332 (27-41)<br>333 (9-20) |

| Item No. | Description of Skill | Item |
|---|---|---|
| 21 | Multiplication, positive and negative integers | $^{-}6 \times {}^{-}6 =$ ____ |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Grade | Pages | Grade | Pages | Grade | Pages |
| 1 | - | 1 | - | 1 | - |
| 2 | - | 2 | - | 2 | - |
| 3 | - | 3 | - | 3 | - |
| 4 | - | 4 | - | 4 | - |
| 5 | - | 5 | - | 5 | - |
| 6 | - | 6 | - | 6 | - |
| 7 | - | 7 | 372<br>382 (Set E)<br>383 (Set C) | 7 | 322-329<br>333 (21-32) |

## Computation, Level VII

| Item No. | Description of Skill | Item |
|---|---|---|
| 22 | Division, positive and negative integers | $^{+}36 \div {}^{-}9 =$ ____ |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Grade | Pages | Grade | Pages | Grade | Pages |
| 1 | - | 1 | - | 1 | - |
| 2 | - | 2 | - | 2 | - |
| 3 | - | 3 | - | 3 | - |
| 4 | - | 4 | - | 4 | - |
| 5 | - | 5 | - | 5 | - |
| 6 | - | 6 | - | 6 | - |
| 7 | - | 7 | 373<br>382 (Set F)<br>383 (Set D) | 7 | 330-331<br>333 (33-44) |

| Item No. | Description of Skill | Item |
|---|---|---|
| 23 | Percent, find percentage given percent | 25% of 40 is ___ |

| Houghton Mifflin | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | 286-288 |
| 7 | 280-281, 283,<br>285, 288 (9-18)<br>296, 298, 302-303<br>401 (1-12),<br>402 (1-16) |

| Scott | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | 270-271,<br>274-279,<br>284-285,<br>303 (Set I)* |
| 7 | 282-285,<br>319 (Set E)<br>384 (Set E) |

| Holt | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | 282-288,<br>370 (Set 282) |
| 7 | 222-223,<br>230-233<br>402 (Set 222) |

*Not Roman numeral I
Set i (capital i)

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Computation, Level VII

| Item No. | Description of Skill | Item |
|---|---|---|
| 24 | Percent, find percent one number is of another | 12 is ___% of 60 |

| Houghton Mifflin | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | - |
| 7 | 290-291,<br>401 (25-36)<br>402 (17-32) |

| Scott | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | 268-269 |
| 7 | 286-287<br>319 (Set F)<br>384 (Set F) |

| Holt | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | 274-275,<br>370 (Set 278) |
| 7 | 226-227<br>403 (Set 226) |

| Item No. | Description of Skill | Item |
|---|---|---|
| 25 | Percent, change fraction to percent form | $\frac{1}{3} = \_\_\_\_\%$ |

| Houghton Mifflin | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | 223-224,<br>227-228 |
| 7 | 266-267, 270<br>400 (1-20) |

| Scott | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | 262-267 |
| 7 | 250, 255 (Set E), 281, 318 (Set C) |

| Holt | |
|---|---|
| Grade | Pages |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 | - |
| 5 | - |
| 6 | 278-279,<br>369 (Set 278) |
| 7 | 216-219 |

# TEXTBOOK PAGE REFERENCES FOR CONCEPTS AND APPLICATIONS INVENTORY ITEMS

The two kinds of mathematics inventories, Computation and Concepts and Applications, used in this program are described and reproduced in Part III of this series of guides, Mathematics Diagnosis, on pages 21 - 79. All Computation Inventory items are cross-referenced with page numbers to the District's three basic textbook series, Houghton Mifflin, Mathematics for Individual Achievement, Scott Foresman, Mathematics Around Us and Holt, Rinehart and Winston, Holt School Mathematics through the Kennedy Kit Reference Cards and this guide (see pages F 1 - 46 and G 1 - 16).

Page references for the same three basic series for the Concepts and Applications Inventory items are found on the following pages, together with the items themselves. It is hoped that these references will be of help to teachers as they assist pupils in developing diagnosed needs as determined by the inventories.

## CHULA VISTA PRESCRIPTIVE MATHEMATICS PROGRAM

## TEXTBOOK PAGE REFERENCES FOR CONCEPTS AND APPLICATIONS INVENTORY ITEMS

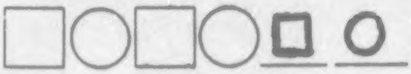
### Kindergarten Level

*T before a numeral refers to teacher's edition. Page references are given for the designated grade level and one grade above.*

---

| Item No. | Description of Skill |
|---|---|
| 1 | Logical thinking: Identify and complete pattern (geometric shapes) |

Item



| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| K | 65-66 |
| 1 | T117 |

| Scott | |
|---|---|
| Gr | Pages |
| K | 21-22 |
| 1 | 48 |

| Holt | |
|---|---|
| Gr | Pages |
| K | 81-83 |
| 1 | - |

---

| Item No. | Description of Skill |
|---|---|
| 2 | Matching one - to - one |

Item

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| K | 16-20 |
| 1 | 14-18, T321 |

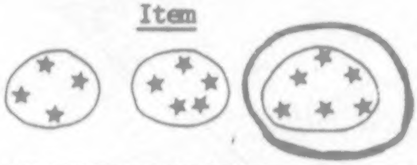
| Scott | |
|---|---|
| Gr | Pages |
| K | 23-26 |
| 1 | 7-12 |

| Holt | |
|---|---|
| Gr | Pages |
| K | 15-20 |
| 1 | 7-10 |

---

| Item No. | Description of Skill |
|---|---|
| 3 | Count sets to find set with most |

Item



| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| K | 18-20 |
| 1 | 17 |

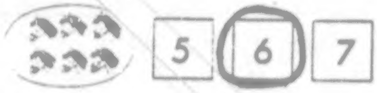
| Scott | |
|---|---|
| Gr | Pages |
| K | 25-26 |
| 1 | 9-12, 27-29 |

| Holt | |
|---|---|
| Gr | Pages |
| K | 11-12 |
| 1 | 9, 29 |

---

| Item No. | Description of Skill |
|---|---|
| 4 | Count, match set with numeral |

Item



| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| K | 71-74 |
| 1 | 45-47, 49-51, T109-110 Unit 1 test T324 |

| Scott | |
|---|---|
| Gr | Pages |
| K | 67-68, 80 |
| 1 | 49-54 |

| Holt | |
|---|---|
| Gr | Pages |
| K | 41-46 |
| 1 | 23-24 |

**Item No.** **Description of Skill** **Item**

5 Identify coin worth most (dime)

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| K | 51-54 (1¢,5¢ only) |
| 1 | 39, 65-66, 113<br>T325 |

| Scott | |
|---|---|
| Gr | Pages |
| K | 61-62 |
| 1 | 65-66, 213-216 |

| Holt | |
|---|---|
| Gr | Pages |
| K | – |
| 1 | 203-206 |

**Item No.** **Description of Skill** **Item**

6 Count, identify set just before 5

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| K | 43-50 |
| 1 | 35-38, T323 |

| Scott | |
|---|---|
| Gr | Pages |
| K | 57-60 |
| 1 | 24, 27, 29-31, 45 |

| Holt | |
|---|---|
| Gr | Pages |
| K | 39-40, 43-46 |
| 1 | 19, 21-22, 29-30 |

**Item No.** **Description of Skill** **Item**

7 Count, identfy set just after 2

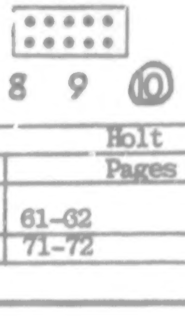
| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| K | 29-30, 32-41 |
| 1 | 21-30, T323 |

| Scott | |
|---|---|
| Gr | Pages |
| K | 31-34, 57-60 |
| 1 | 24, 28, 32 |

| Holt | |
|---|---|
| Gr | Pages |
| K | 30-31, 34-36 |
| 1 | 17-18 |

**Item No.** **Description of Skill** **Item**

8 Count, match set with numeral



| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| K | 87-88 |
| 1 | 67-70 |

| Scott | |
|---|---|
| Gr | Pages |
| K | 87-88 |
| 1 | 61-64 |

| Holt | |
|---|---|
| Gr | Pages |
| K | 61-62 |
| 1 | 71-72 |

H-4

## Concepts & Applications, Kindergarten Level

| Item No. | Description of Skill | Item |
|---|---|---|
| 9 | Problem solving: addition, 1 + 1 = ☐ | 0 1 [✓ 2] |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| K | 21-22, 27-28, 31 |
| 1 | 71-74 |

| Scott | |
|---|---|
| Gr | Pages |
| K | 27-28, 71-72 |
| 1 | 127-128 |

| Holt | |
|---|---|
| Gr | Pages |
| K | 28-29, 85-86 |
| 1 | 41-42 |

| Item No. | Description of Skill | Item |
|---|---|---|
| 10 | Problem solving: addition, 2 + 1 = ☐ | 1 2 [✓ 3] |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| K | 23-26, 29-30, 32-34 |
| 1 | 71-74 |

| Scott | |
|---|---|
| Gr | Pages |
| K | 31-32, 71-72 |
| 1 | 127-128 |

| Holt | |
|---|---|
| Gr | Pages |
| K | 30-31, 85-86 |
| 1 | 41-42 |

| Item No. | Description of Skill | Item |
|---|---|---|
| 11 | Geometry: identify picture with triangle | |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| K | 60-61, 64 |
| 1 | 189-190, 193-194 |

| Scott | |
|---|---|
| Gr | Pages |
| K | 51-52 |
| 1 | 87, 89-90 |

| Holt | |
|---|---|
| Gr | Pages |
| K | 74, 80 |
| 1 | 249 |

| Item No. | Description of Skill | Item |
|---|---|---|
| 12 | Identify numeral representing greatest (3-place) | 20 12 21 [✓ 102] |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | - |

| Scott | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | - |

| Holt | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | - |

| Item No. | Description of Skill | Item |
|---|---|---|
| 13 | Identify numeral representing the least (2-place) | [✓ 18] 68 81 79 |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| K | - | K | - | K | - |
| 1 | 109-112, 115-122, 145-148, 163-164 | 1 | 169, 171-172 | 1 | 73-81, 85, 87 |

| Item No. | Description of Skill | Item |
|---|---|---|
| 14 | Identify counting order of numerals (1-digit) | 1,3,2,4 [✓ 1,2,3,4] 1,2,4,3 |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| K | 39, 49-50, 67, 70 | K | 57-58, 60, 83-84 | K | 43-44, 46-47, 57-58 |
| 1 | 34, 38, 41-42 | 1 | 73-74 | 1 | 21-22 |

| Item No. | Description of Skill | Item |
|---|---|---|
| 15 | Identify counting order of numerals (2-digit) | 15 17 16 [✓ 11 12 13] |

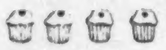
| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| K | - | K | - | K | - |
| 1 | 115-116 | 1 | 110 | 1 | 79-80 |

| Item No. | Description of Skill | Item |
|---|---|---|
| 16 | Problem solving: subtraction, 3 - 1 = ☐ | 1 [✓ 2] 3 |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| K | - | K | - | K | 89-90 |
| 1 | 83 | 1 | 127-128 | 1 | 53-54 |

## Concepts & Applications, Kindergarten Level

| Item No. | Description of Skill | Item |
|---|---|---|
| 17 | Problem solving: subtraction, 4 - 4 = ☐ | [✓ 0] 2 4 |



| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| K | - | K | - | K | 91 |
| 1 | 84-86 | 1 | 127-128 | 1 | 53-54 |

| Item No. | Description of Skill | Item |
|---|---|---|
| 18 | Identify missing numeral (between) | 6 __ 8   5 [✓ 7] 9 |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| K | 81, 85 | K | 83-84 | K | 55, 57-58 |
| 1 | 54, 60, 106 | 1 | 72-74 | 1 | 28, 39 |

| Item No. | Description of Skill | Item |
|---|---|---|
| 19 | Identify missing numeral (after) | 3 4 __   [✓ 5] 2 6 |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| K | 49-50, 67, 70 | K | 58, 60 | K | 43-44, 46-47 |
| 1 | 41-42, 60 | 1 | 72-74 | 1 | 21-22 |

| Item No. | Description of Skill | Item |
|---|---|---|
| 20 | Identify missing numeral (before) | __ 2 3   0 [✓ 1] 4 |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| K | 30, 33, 39. 49-50, 67, 70 | K | 33-34, 58, 60 | K | 34-36 |
| 1 | 24-26, 29-30, 62 | 1 | 72-74 | 1 | 21-22 |

## Level I

*T before a numeral refers to teacher's edition. Page references are given for the designated grade level and one grade below and one grade above.*

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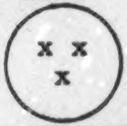
| Item No. | Description of Skill |
|---|---|
| 1 | Count 0-5 |

Item



3

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| K | 21-50, 67-70,<br>T230-T232, T236 |
| 1 | 19-43 |
| 2 | 5-6 |

| Scott | |
|---|---|
| Gr | Pages |
| K | 27-34, 55-56, 59-60 |
| 1 | 16-22, 24-32 |
| 2 | - |

| Holt | |
|---|---|
| Gr | Pages |
| K | 26-41 |
| 1 | 15-22 |
| 2 | 5-7 |

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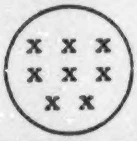
| Item No. | Description of Skill |
|---|---|
| 2 | Count 6-10 |

Item



8

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| K | 71-77, 79-81, 83-88,<br>T237-T241 |
| 1 | 44-62, 67-70 |
| 2 | 2-4 |

| Scott | |
|---|---|
| Gr | Pages |
| K | 67-68, 77-87 |
| 1 | 49-64, 69-70 |
| 2 | 2-5 |

| Holt | |
|---|---|
| Gr | Pages |
| K | 42-45, 49-57, 61 |
| 1 | 23-28 39-40 |
| 2 | 8 |

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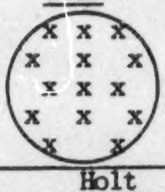
| Item No. | Description of Skill |
|---|---|
| 3 | Count 11-20 |

Item



14

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | 107-112, 115, T329 |
| 2 | 31 |

| Scott | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | 109-110 |
| 2 | 6-8 |

| Holt | |
|---|---|
| Gr | Pages |
| K | 93-96 |
| 1 | 72-74, 79-80 |
| 2 | 53, 55 |

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| Item No. | Description of Skill |
|---|---|
| 4 | Order of numerals: 0-10 (after) |

Item

4, 5, 6, 7

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| K | 77, 81, 85, 88 |
| 1 | 60, 106 |
| 2 | 5-8, T321 |

| Scott | |
|---|---|
| Gr | Pages |
| K | 57-58 |
| 1 | 71-74 |
| 2 | 3, 13 |

| Holt | |
|---|---|
| Gr | Pages |
| K | 50, 55, 57-58 |
| 1 | 23, 28, 39, 71 |
| 2 | 7-10 |

## Concepts & Applications - Level I

| Item No. | Description of Skill | Item |
|---|---|---|
| 5 | Order of numerals: 0-20 (after) | 17, 18, 19, 20 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | 115-116, 121 |
| 2 | T324 |

| Scott | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | 110 |
| 2 | 13-14, 45, 80 |

| Holt | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | 80, 82, 86, 88 |
| 2 | 55 |

| Item No. | Description of Skill | Item |
|---|---|---|
| 6 | Order of numerals: 0-10 (between) | 7, 8, 9 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | 121-122 |
| 2 | 5, T321 |

| Scott | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | 72-73, 93 |
| 2 | 13-14 |

| Holt | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | 28, 71 |
| 2 | 7-10 |

| Item No. | Description of Skill | Item |
|---|---|---|
| 7 | Order of numerals: 0-30 (after) | 28, 29, 30 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | 121-122, T330 |
| 2 | 40, 188 |

| Scott | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | 240-242 |
| 2 | 115-116, 144 |

| Holt | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | 82, 86, 88 |
| 2 | 61 |

| Item No. | Description of Skill | Item |
|---|---|---|
| 8 | Order of numerals: 0-100 (before) | 54, 55, 56 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | 121-122, 147-148, 165-166, 174-176, T324, T333, T335 |
| 2 | 38-39, 42, 61- |

| Scott | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | 169-170, 189, 192, 209-210, 237 |
| 2 | 109-110 |

| Holt | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | 150-154, 159-170, 310 |
| 2 | 61-64, 305 |

| Item No. | Description of Skill | Item |
|---|---|---|
| 9 | Identify 2-place numeral | 61 6 [✓ 16] |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | 110-112, 115, 146, T330 |
| 2 | 31-34, 37 |

| Scott | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | 109-114, 139, 163-168, 251 |
| 2 | 83-90, 93, 107-108, 148, 170 |

| Holt | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | 73-79, 81, 85, 87 161, 163, 165, 167 |
| 2 | 53-55, 57-59, 111-112 |

| Item No. | Description of Skill | Item |
|---|---|---|
| 10 | Identify minus sign | = + [✓ −] |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | 87-93 |
| 2 | 15-16 |

| Scott | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | 37-40 |
| 2 | 23-24 |

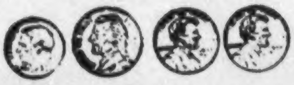
| Holt | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | 55-62 |
| 2 | 33-34 |

| Item No. | Description of Skill | Item |
|---|---|---|
| 11 | Place value: identify one's place in three-digit numeral | 64[✓ 8] |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | - |
| 2 | 133-137, 225-228 |

| Scott | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | - |
| 2 | 205-210, 235-236, 238, 276-278, 285 |

| Holt | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | - |
| 2 | 139-143, 193 |

| Item No. | Description of Skill | Item |
|---|---|---|
| 12 | Money: count coins (penny, nickel, dime) |  |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | 113-114 |
| 2 | 9-10, 35-36, 52 |

| Scott | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | 65-66, 213-216, 245-246, 248, 285 |
| 2 | 49-50, 118 |

| Holt | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | 203-206 |
| 2 | 151-152 |

## Concepts & Applications - Level I

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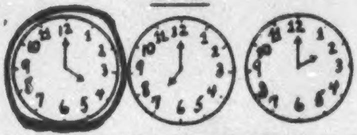
| Item No. | Description of Skill | Item |
|---|---|---|
| 13 | Time: identify hour |  |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | 129-130, 239-240 |
| 2 | 67-68, T326 |

| Scott | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | 135-136 |
| 2 | 39-40 |

| Holt | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | 119-124, 309, 311 |
| 2 | 71-72 |

---

| Item No. | Description of Skill | Item |
|---|---|---|
| 14 | Identify greatest (2-digit numerals) | [✓ 53] 35 29 49 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | 147, 165, 174, 176 (counting order) |
| 2 | 39-40 (counting order) |

| Scott | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | 107-114, 171-174, 209-212, 252 |
| 2 | 10-12, 42, 45, 77-78, 80, 113-114, 141 |

| Holt | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | 29, 171 |
| 2 | 11, 13-14, 65-66, 98 304 |

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| Item No. | Description of Skill | Item |
|---|---|---|
| 15 | Identify least (2-digit numerals) | 31 [✓ 13] 20 15 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | 121, 147, 165, 174, 176 (counting order) |
| 2 | 39-40 (counting order) |

| Scott | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | 107-114, 171, 173 209-210, 252 |
| 2 | 10-12, 14, 42, 77-78, 80, 111-114 |

| Holt | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | 30, 172 |
| 2 | 12, 13-14, 65-66, 98, 304 |

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| Item No. | Description of Skill | Item |
|---|---|---|
| 16 | Problem solving: addition, sums < 10 (2 + 1 = ☐ ) | 2 [✓ 3] 4 5 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | 78, 98, 102, 143, 153, 159, 170 |
| 2 | 11, 24 |

| Scott | |
|---|---|
| Gr | Pages |
| K | 71-72 |
| 1 | 127-128, 159-160, 203, 263-264 |
| 2 | 19-20 |

| Holt | |
|---|---|
| Gr | Pages |
| K | 85-88 |
| 1 | 41-48, 63, 98-99, 125, 135, 137, 145, 147, 181, 227, 229, 237, 239 |
| 2 | 25, 30, 39, 46-47, 70 |

| Item No. | Description of Skill | Item |
|---|---|---|
| 17 | Problem solving: add 3 numbers, sums < 10 (2 + 2 + 2 = □ ) | 2 4 [✓ 6] 8 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | 202 |
| 2 | 114, 243-244 |

| Scott | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | 249-250 |
| 2 | 245-246, 129 |

| Holt | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | 93, 173, 219-220, 230, 240, 301 |
| 2 | 107-108, 134 |

| Item No. | Description of Skill | Item |
|---|---|---|
| 18 | Problem solving: subtraction, minuends < 10 (5 - 4 = □ ) | 5 [✓ 1] 6 4 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | 90, 98, 102, 143, 153, 159, 170 |
| 2 | 48, 60 |

| Scott | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | 127-128, 159-160, 204, 263-264 |
| 2 | 23-24, 59-60 |

| Holt | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | 53-62, 64, 98-99, 117-118, 125, 135, 137, 145. 147, 181 227, 229, 237, 239 |
| 2 | 33, 40, 46-47, 70, 93, 95, 109 |

| Item No. | Description of Skill | Item |
|---|---|---|
| 19 | Problem solving: subtraction, multiples of 10 (30 - 20 = □ ) | [✓ 10] 20 30 40 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | 211-214, T339 |
| 2 | 99-100, 108, 205, 213 |

| Scott | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | - |
| 2 | 67-68, 127-128, 193-194 |

| Holt | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | 270-272, 275, 279 |
| 2 | 120, 123, 133, 135, 173, 175, 182, 189 |

| Item No. | Description of Skill | Item |
|---|---|---|
| 20 | Problem solving: find missing sum, sums < 10 ( □ - 1 = 5) | 7 1 [✓ 6] 4 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | - |
| 2 | - |

| Scott | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | 44, 155, 198, 258, 262 |
| 2 | - |

| Holt | |
|---|---|
| Gr | Pages |
| K | - |
| 1 | - |
| 2 | 49 |

H-12

## Level II

*T before a numeral refers to teacher's edition. Page references are given for the designated grade level and one grade below and one grade above.*

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| Item No. | Description of Skill | Item |
|---|---|---|
| 1 | Identify greatest | 123 [✓ 321] 319 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | 137-138 |
| 3 | 51-53, 57-58 |

| Scott | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | 203-210, 275-278, 285 |
| 3 | 74-77, 80-83 |

| Holt | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | 145-148, 191 |
| 3 | 10-17 |

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| Item No. | Description of Skill | Item |
|---|---|---|
| 2 | Order of numerals (after) | 198, 199, 200 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | 137-138, 186 |
| 3 | 50 |

| Scott | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | 275 |
| 3 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | 144-145 |
| 3 | - |

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| Item No. | Description of Skill | Item |
|---|---|---|
| 3 | Order of numerals (before) | 119, 120, 121 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | 137-138, 186 |
| 3 | 50 |

| Scott | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | 275 |
| 3 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | 144-145 |
| 3 | - |

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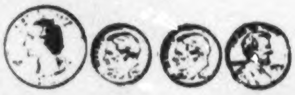
| Item No. | Description of Skill | Item |
|---|---|---|
| 4 | Money: count coins |  |

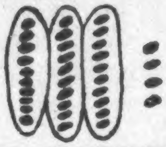
| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 1 | 113-114, 118, 177-178<br>T325 |
| 2 | 30, 35-36, 161-162 |
| 3 | 24, 115-117 |

| Scott | |
|---|---|
| Gr | Pages |
| 1 | 213-216, 285 |
| 2 | 118-120, 222 |
| 3 | 78-79, 164-165 |

| Holt | |
|---|---|
| Gr | Pages |
| 1 | 203-209 |
| 2 | 151-152, 155, 157 |
| 3 | 36-37 |

| Item No. | Description of Skill |
|---|---|
| 5 | Place value: count tens and ones |

Item



34

| Gr | Houghton Mifflin Pages |
|---|---|
| 1 | 110-112, 119-120, 146, T330 |
| 2 | 31-34, 37 |
| 3 | 21-23 |

| Gr | Scott Pages |
|---|---|
| 1 | 105-106, 109-114, 139, 163-168, 205-206 |
| 2 | 83-90, 93 |
| 3 | 68-70, 84 |

| Gr | Holt Pages |
|---|---|
| 1 | 73-79, 81, 85, 87 |
| 2 | 53, 55, 57 |
| 3 | 4-6 |

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| Item No. | Description of Skill |
|---|---|
| 6 | Identify 2-digit numeral (twenty-five) |

Item

21051 52 [✓ 25] 215

| Gr | Houghton Mifflin Pages |
|---|---|
| 1 | 110-112, 115, 119-120, 146, T330 |
| 2 | 31-34 |
| 3 | 21-23 |

| Gr | Scott Pages |
|---|---|
| 1 | 105-106, 109-114, 139, 163-168, 205-208, 237 |
| 2 | 81-90, 93, 107-108, 148, 170 |
| 3 | 68-70, 84 |

| Gr | Holt Pages |
|---|---|
| 1 | 79, 81, 85, 87, 159, 161, 163, 165, 167, T307 |
| 2 | 53-55, 57, 139-146 |
| 3 | 4-6 |

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| Item No. | Description of Skill |
|---|---|
| 7 | Identify numeral 1 less |

Item

191 [✓ 119] 121

| Gr | Houghton Mifflin Pages |
|---|---|
| 1 | - |
| 2 | 137-138, 186 |
| 3 | 50 |

| Gr | Scott Pages |
|---|---|
| 1 | - |
| 2 | 275 |
| 3 | - |

| Gr | Holt Pages |
|---|---|
| 1 | - |
| 2 | 16, 23, 144 |
| 3 | - |

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| Item No. | Description of Skill |
|---|---|
| 8 | Identify 3-digit numeral (one hundred eight) |

Item

1008 180 [✓ 108]

| Gr | Houghton Mifflin Pages |
|---|---|
| 1 | - |
| 2 | 133-138, 153, 228, T332 |
| 3 | 52-53 |

| Gr | Scott Pages |
|---|---|
| 1 | - |
| 2 | 205-210, 235-236, 238, 275-278, 285 |
| 3 | 75-77, 80-83, 196-197 |

| Gr | Holt Pages |
|---|---|
| 1 | - |
| 2 | 140-144 |
| 3 | 11-15 |

H-14

## Concepts & Applications - Level II

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| Item No. | Description of Skill | Item |
|---|---|---|
| 9 | Count by 2's | 2, 4, 6, 8 |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 1 | - | 1 | 247-250, 285 | 1 | 93-94, 173 |
| 2 | 241 | 2 | 181-182, 192 | 2 | 68-69, 277 |
| 3 | 19 | 3 | 137 | 3 | 10 |

---

| Item No. | Description of Skill | Item |
|---|---|---|
| 10 | Identify odd number | 4 10 [✓ 7] 6 |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 1 | - | 1 | - | 1 | - |
| 2 | - | 2 | 241-245 | 2 | - |
| 3 | - | 3 | 8-9 | 3 | 188 |

---

| Item No. | Description of Skill | Item |
|---|---|---|
| 11 | Problem solving: Interpret graph and ientify most | |

| Grade | Number of Children |
|---|---|
| 1 | 29 |
| 2 | 30 |
| 3 | 33 |
| 4 | 34 |

Which grade has the most children?

1 2 3 [✓ 4]

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 1 | - | 1 | 13-14, 91, 137,<br>145-146, 235 | 1 | 35-40 |
| 2 | - | 2 | 17-18, 185-186 | 2 | 19-20, 24, 69, 212 |
| 3 | 90 | 3 | 10-11 | 3 | 282-285 |

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| Item No. | Description of Skill | Item |
|---|---|---|
| 12 | Interpret graph in Item 11. Subtract to find how many more, 33 - 30 = ☐ | How many more in Grade 3 than Grade 2?<br>0 1 [✓ 3] 4 |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 1 | - | 1 | - | 1 | - |
| 2 | 205, 213 | 2 | 17-18, 185-186 | 2 | 123, 125 |
| 3 | - | 3 | 10-11 | 3 | 104-106 |

## Concepts & Applications - Level II

| Item No. | Description of Skill | Item |
|---|---|---|
| 13 | Interpret graph in item 11. Subtract to find how many less, 30 - 29 = ☐ | How many fewer in Grade 1 than Grade 2?<br>[✓ 1] 2 9 10 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | 205, 213 |
| 3 | 77 |

| Scott | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | 17-18, 185-186 |
| 3 | 10-11 |

| Holt | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | 265-266, 270 |
| 3 | 112-114 |

---

| Item No. | Description of Skill | Item |
|---|---|---|
| 14 | Problem solving: add 5 + 2 = ☐ | [✓ 7] 3 5 2 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 1 | 78, 98, 102, 143, 153, 159, 170 |
| 2 | 11, 118, 142, 152 |
| 3 | 78 |

| Scott | |
|---|---|
| Gr | Pages |
| 1 | 127-128, 159-160, 203 263-264 |
| 2 | 59-60, 67-68 |
| 3 | 38-39 |

| Holt | |
|---|---|
| Gr | Pages |
| 1 | 48, 63, 98-99, 125, 135 |
| 2 | 80, 83-84 |
| 3 | 35, 46-49, 56-59 |

---

| Item No. | Description of Skill | Item |
|---|---|---|
| 15 | Problem solving: add 5 + 5 = ☐<br>or multiply 2 x 5 = ☐ | 2 5 [✓ 10] 20 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 1 | 170 |
| 2 | 11, 118, 142, 152, 245 |
| 3 | 129 |

| Scott | |
|---|---|
| Gr | Pages |
| 1 | 127-128, 159-160, 203, 263-264 |
| 2 | 59-60, 67-68 |
| 3 | 38-39 |

| Holt | |
|---|---|
| Gr | Pages |
| 1 | 231, 239 |
| 2 | 127-128, 281 |
| 3 | 154, 156 |

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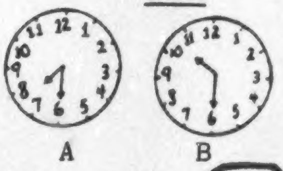
| Item No. | Description of Skill | Item |
|---|---|---|
| 16 | Problem solving: tell time, half hour | |



8:30 9:30 [✓ 7:30] 11:30

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 1 | 241-244 |
| 2 | 157-158 |
| 3 | 16, 181 |

| Scott | |
|---|---|
| Gr | Pages |
| 1 | 225-226 |
| 2 | 39-40 |
| 3 | 318-319 |

| Holt | |
|---|---|
| Gr | Pages |
| 1 | 199-202,T313,T315,T318 |
| 2 | 71-73 |
| 3 | 18-19 |

| Item No. | Description of Skill | Item |
|---|---|---|
| 17 | Refer to clocks in Item 16.<br>Tell time: subtract 10:30 - 7:30 = ☐ | 3 min. 2 hr. [✓ 3 hr.] 4 hr. |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | - |
| 3 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | - |
| 3 | 318-319 |

| Holt | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | - |
| 3 | - |

---

| Item No. | Description of Skill | Item |
|---|---|---|
| 18 | Problem solving:<br>missing addend, 8 - ☐ = 6 | [✓ 2] 6 8 14 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | - |
| 3 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 1 | 44 |
| 2 | 66, 139 |
| 3 | 35 |

| Holt | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | - |
| 3 | - |

---

| Item No. | Description of Skill | Item |
|---|---|---|
| 19 | Problem solving:<br>subtract money, 20¢ - 5¢ = ☐ | [✓ 15¢] 20¢ 25¢ 30¢ |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | 197-205 |
| 3 | 77 |

| Scott | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | - |
| 3 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | 153-154 |
| 3 | - |

---

| Item No. | Description of Skill | Item |
|---|---|---|
| 20 | Problem solving:<br>subtract to find how many more,<br>14 - 12 = ☐ | 4 26 6 [✓ 2] |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | 108 |
| 3 | 77-78, T384 |

| Scott | |
|---|---|
| Gr | Pages |
| 1 | - |
| 2 | 127-128, 193-194 |
| 3 | 38-41, 110-111 |

| Holt | |
|---|---|
| Gr | Pages |
| 1 | 278-280 |
| 2 | 123, 125, 135, 189 |
| 3 | 104-106 |

*T before a numeral refers to teacher's edition. Page references are given for the designated grade level and one grade below and one grade above.*

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Item No. Description of Skill Item

1 Order of numerals

997, 998, 999, 1000

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 2 | - |
| 3 | - |
| 4 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 2 | - |
| 3 | - |
| 4 | 10 |

| Holt | |
|---|---|
| Gr | Pages |
| 2 | - |
| 3 | 22 |
| 4 | 14-15, 17 (No. 21) |

---

Item No. Description of Skill Item

2 Count by 2's (reverse order)

11, 9, 7, 5

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 2 | - |
| 3 | 19 |
| 4 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 2 | 181 |
| 3 | 44 |
| 4 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 2 | - |
| 3 | - |
| 4 | - |

---

Item No. Description of Skill Item

3 Division: How many 2's in 6?

2 [✓ 3] 6 26

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 2 | 243-244 |
| 3 | 143-144, 149 |
| 4 | 13 |

| Scott | |
|---|---|
| Gr | Pages |
| 2 | 181-182, 219-220 |
| 3 | 148-153 |
| 4 | 90-91 |

| Holt | |
|---|---|
| Gr | Pages |
| 2 | 281-283, 291-292 |
| 3 | 154-155 |
| 4 | 129-131, 191 |

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Item No. Description of Skill Item

4 Identify Roman numeral for 4

IX V VI [✓ IV]

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 2 | - |
| 3 | - |
| 4 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 2 | - |
| 3 | - |
| 4 | 30 |

| Holt | |
|---|---|
| Gr | Pages |
| 2 | - |
| 3 | - |
| 4 | 7-8 |

| Item No. | Description of Skill | Item |
|---|---|---|
| 5 | Identify hundred's place | 3[✓ 5]89 |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 2 | 133-136, 228 | 2 | 205-206, 209-210, 277-278 | 2 | - |
| 3 | 211-213 | 3 | 74-77, 196-199, 207 | 3 | 22-27, 329 |
| 4 | 17-18, 34-35 | 4 | 6-7, 10-11 | 4 | 12-15, 357 |

| Item No. | Description of Skill | Item |
|---|---|---|
| 6 | Identify odd number | 8 6 [✓ 9] 4 |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 2 | - | 2 | 241-244 | 2 | - |
| 3 | - | 3 | 8-9 | 3 | 188 |
| 4 | 297-298, 308 | 4 | 31 | 4 | 139 |

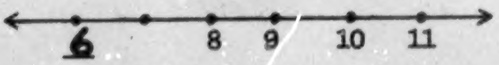
| Item No. | Description of Skill | Item |
|---|---|---|
| 7 | Other number names:<br>identify number name ≠ seven | 2 + 3 + 2 8 - 1 [✓ 4 + 2] seven |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 2 | - | 2 | 31-32, 56, 102, 125-126 | 2 | 83-84, 88, 92. 96 |
| 3 | 42 | 3 | 36 | 3 | - |
| 4 | - | 4 | - | 4 | - |

| Item No. | Description of Skill | Item |
|---|---|---|
| 8 | Identify six thousand two | 60002 6020 [✓ 6002] 602 |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 2 | - | 2 | - | 2 | - |
| 3 | 211-213 | 3 | 194-199, 206-207 | 3 | 24-27, 30-31, 329 |
| 4 | 17-18, 34-35 | 4 | 6-7, 10-11 | 4 | 14-17 |

| Item No. | Description of Skill | Item |
|---|---|---|
| 9 | Fill in number line (whole numbers) | |



| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 2 | 6-7 |
| 3 | 27-29 |
| 4 | 20 |

| Scott | |
|---|---|
| Gr | Pages |
| 2 | 27-28 |
| 3 | 6-7 |
| 4 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 2 | 79-80 |
| 3 | 49, 52 |
| 4 | 34 |

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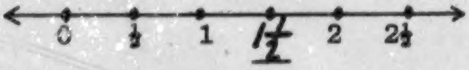
| Item No. | Description of Skill | Item |
|---|---|---|
| 10 | Fill in number line (common fractions) | |



| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 2 | - |
| 3 | - |
| 4 | 135, T387 |

| Scott | |
|---|---|
| Gr | Pages |
| 2 | - |
| 3 | 316-317 |
| 4 | 180-183 |

| Holt | |
|---|---|
| Gr | Pages |
| 2 | - |
| 3 | 280-281 |
| 4 | 232-233 |

---

| Item No. | Description of Skill | Item |
|---|---|---|
| 11 | Problem solving: add 6 + 3 + 8 = ☐ | 6 children are standing. 3 more stand. Then 8 more stand. How many are standing altogether?<br>9 18 16 [✓ 17] NH |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 2 | 109-114, 116, 120, 144, 148, 165, 173-176 |
| 3 | 31-32, 34 |
| 4 | 21, 49 |

| Scott | |
|---|---|
| Gr | Pages |
| 2 | 129-130 |
| 3 | 42-43, 104 |
| 4 | 36 |

| Holt | |
|---|---|
| Gr | Pages |
| 2 | 107-108, 134, 163, 308 |
| 3 | 78, 86 |
| 4 | 36, 45 (No. 5), 46 (No. 25), 47 (No. 21), 50-51 |

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| Item No. | Description of Skill | Item |
|---|---|---|
| 12 | Problem solving: add 16 + 17 = ☐ | Steve had 16 baseball trading cards. He was given 17 more. How many does he have now?<br>1 23 [✓ 33] 43 NH |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 2 | 205, 213 |
| 3 | 97, 119-120, T384 |
| 4 | 54 |

| Scott | |
|---|---|
| Gr | Pages |
| 2 | 155-158, 187, 189, 199-202, 263, 265-266 |
| 3 | 94-95, 120-121 |
| 4 | 27 |

| Holt | |
|---|---|
| Gr | Pages |
| 2 | 113-116, 119, 121, 125, 247-258 |
| 3 | 76-77, 80-81, 84-85, 87, T341 |
| 4 | 48-49, 56 |

## Concepts & Applications - Level III

| Item No. | Description of Skill | Item |
|---|---|---|
| 13 | Problem solving: subtract 15 - 9 = ☐ | Joe did 15 problems. He got 9 wrong. How many are right?<br>15 [✓ 6] 7 24 NH |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 2 | 163 |
| 3 | 29-30 |
| 4 | 44 |

| Scott | |
|---|---|
| Gr | Pages |
| 2 | 99-100, 105-106, 127-128, 193-194 |
| 3 | 38-41, 110-111 |
| 4 | 27-29 |

| Holt | |
|---|---|
| Gr | Pages |
| 2 | 205-208, 211, 213 |
| 3 | 56-59, 63, 87, 107 |
| 4 | 39-41 |

| Item No. | Description of Skill | Item |
|---|---|---|
| 14 | Problem solving: divide 18 ÷ 2 = ☐ | There are 18 oranges in 2 bags. Each bag has the same number in it. How many oranges in each?<br>16 6 [✓ 9] 20 NH |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 2 | - |
| 3 | 157-158, 225-226, 241-242, 292, 305-306, T395 |
| 4 | 162, 164, T389 |

| Scott | |
|---|---|
| Gr | Pages |
| 2 | - |
| 3 | 148-153, 156-157, 160-161 |
| 4 | 90-91 |

| Holt | |
|---|---|
| Gr | Pages |
| 2 | 291-292 |
| 3 | 177 (No. 1),<br>181 (No. 3,4), 186-187 |
| 4 | 129-131 |

| Item No. | Description of Skill | Item |
|---|---|---|
| 15 | Problem solving: subtract 30 - 13 = ☐ | There are 30 children in Room 3. 13 are girls. How many are boys?<br>[✓ 17] 15 23 43 NH |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 2 | 197-205, 213 |
| 3 | 77-78, 111, 119-120, 210, T384 |
| 4 | 44 |

| Scott | |
|---|---|
| Gr | Pages |
| 2 | 177-180, 188, 190, 215-218, 264, 267-268 |
| 3 | 110-111, 116-117 |
| 4 | 48-51 |

| Holt | |
|---|---|
| Gr | Pages |
| 2 | 117-118, 120, 122-126, 259-271 |
| 3 | 112-114 |
| 4 | 84-85, 90 (No. 3,6) |

| Item No. | Description of Skill | Item |
|---|---|---|
| 16 | Problem solving: multiply 2 x 2 = ☐ or add 2 + 2 = ☐ | If it is 2 miles halfway to the park how many miles is it all the way to the park?<br>$\frac{1}{2}$ 1 $2\frac{1}{2}$ [✓ 4] NH |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 2 | 243 |
| 3 | 129-130 |
| 4 | 54 |

| Scott | |
|---|---|
| Gr | Pages |
| 2 | 245-246 |
| 3 | 130-135, 140-141 |
| 4 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 2 | - |
| 3 | 160-161 |
| 4 | - |

| Item No. | Description of Skill | Item |
|---|---|---|
| 17 | Problem solving: two step;<br>divide 10¢ ÷ 2 = ☐ and<br>divide 40¢ ÷ 5¢ = ☐ | Pencils are 2 for 10¢. How many can you buy for 40¢?<br>4 [✓ 8] 20 200 NH |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 2 | - |
| 3 | - |
| 4 | 13-14 |

| Scott | |
|---|---|
| Gr | Pages |
| 2 | - |
| 3 | - |
| 4 | 108 |

| Holt | |
|---|---|
| Gr | Pages |
| 2 | - |
| 3 | 243 (No. 23) |
| 4 | 202-203 |

| Item No. | Description of Skill | Item |
|---|---|---|
| 18 | Problem solving: multiply<br>12 x 2 = ☐ | Sue takes 2 swimming lessons each week. How many does she take in 12 weeks?<br>6 14 10 [✓ 24] NH |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 2 | - |
| 3 | 139-140, 157, 217-218, 225-226, 241-242, 291-292, T395 |
| 4 | 54, 67, 71, T384 |

| Scott | |
|---|---|
| Gr | Pages |
| 2 | - |
| 3 | 130-135, 140-141, 250, 276-279, 283 |
| 4 | 152-153 |

| Holt | |
|---|---|
| Gr | Pages |
| 2 | - |
| 3 | 214-219 |
| 4 | 126-127, 158 |

| Item No. | Description of Skill | Item |
|---|---|---|
| 19 | Problem solving: missing addend,<br>75¢ - ☐ = 59¢ | Bill had 75¢. He lost some of it. He has 59¢ left. How much did be lose?<br>26¢ 24¢ 18¢ [✓ 16¢] NH |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 2 | - |
| 3 | - |
| 4 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 2 | - |
| 3 | - |
| 4 | 58-59 |

| Holt | |
|---|---|
| Gr | Pages |
| 2 | - |
| 3 | - |
| 4 | 32-33 |

| Item No. | Description of Skill | Item |
|---|---|---|
| 20 | Problem solving: two step; multiply<br>$1.00 x 3 = ☐ and subtract<br>$7.50 - $3.00 = ☐ | Maria earned $1.00 a week for 3 weeks. How much more does she need to have earned $7.50?<br>$3.50 $6.50 $5.50 $10.50 [✓ NH] |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 2 | - |
| 3 | - |
| 4 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 2 | - |
| 3 | 118-119 |
| 4 | 150-151 |

| Holt | |
|---|---|
| Gr | Pages |
| 2 | - |
| 3 | 126,199 (No. 34), 244 |
| 4 | 202-203 |

## Level IV

*T before a numeral refers to teacher's edition. Page references are given for the designated grade level and one grade below and one grade above.*

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**Item No.** 1 — **Description of Skill** Identify fractions ≠ ½

**Item**

Which does not mean the same as $\frac{1}{2}$ ?

$\frac{5}{10}$ $\frac{2}{4}$ $\frac{6}{12}$ [✓ $\frac{4}{6}$]

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 3 | - | 3 | 314-317 | 3 | 278-279 |
| 4 | 253-256 | 4 | 266-269 | 4 | 238-242 |
| 5 | 209-215 | 5 | 186-192 | 5 | 198-202 |

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**Item No.** 2 — **Description of Skill** Identify standard numeral

**Item**

50,000 + 700 + 2 = :

500702 57002 [✓ 50702] 5072

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 3 | - | 3 | 86, 199 | 3 | 24-26 |
| 4 | 33-35 | 4 | 11-13, 62 | 4 | 14-17 |
| 5 | 2, 33-34 | 5 | 4-6 | 5 | 24-26 |

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**Item No.** 3 — **Description of Skill** Identify least fraction

**Item**

Which fraction is least?

[✓ $\frac{1}{8}$] $\frac{1}{2}$ $\frac{1}{5}$ $\frac{1}{3}$

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 3 | 173-174 | 3 | 314-317 | 3 | 266-268 |
| 4 | 131, 135 | 4 | 268-269, 332-334 | 4 | 235 |
| 5 | 208, 216 | 5 | 188-189 | 5 | 198-199 |

---

**Item No.** 4 — **Description of Skill** Place value: identify one's and hundred's places

**Item**

In which is an 8 in both the hundred's place and in the one's place?

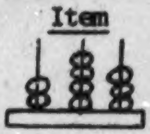
8682 8628 [✓ 6828] 6288

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 3 | 211-214 | 3 | 194-197 | 3 | 24-27 |
| 4 | 17-18, 34 | 4 | 5-7 | 4 | 12-15 |
| 5 | 2-3 | 5 | 4-6 | 5 | 22-25 |

**Item No.** 5

**Description of Skill:** Place value: interpret abacus

**Item**



342 432 [✓ 243] 234

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | 51-53 |
| 4 | 18, 33 |
| 5 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | 74-77 |
| 4 | 4-5 |
| 5 | 4 |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | 12-15 |
| 4 | 12-13 |
| 5 | 22-23 |

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**Item No.** 6

**Description of Skill:** Identify odd numbers

**Item**

In which set is each number odd?

{41,73,68,55} [✓ {53,65,77,81}] {31,54,89,73} {33,47,76,59}

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | - |
| 4 | 297 |
| 5 | 144 |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | 8-9 |
| 4 | 31 |
| 5 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | 188 |
| 4 | 139 |
| 5 | 178-179 |

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**Item No.** 7

**Description of Skill:** Round and multiply

**Item**

3 x 185 is nearest to:

300 400 500 [✓ 600]

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | - |
| 4 | 37, 117-118 |
| 5 | 37-40, 55-56, 74, 188 |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | - |
| 4 | 136-137, 208-209 |
| 5 | 12-13 |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | 128-129 |
| 4 | 68-70, 180-181 |
| 5 | 42-43, 85 |

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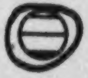
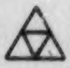
**Item No.** 8

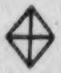
**Description of Skill:** Identify fourths of a region

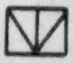
**Item**

Which does not show fourths?









| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | 171-172 |
| 4 | 126, 133, 136 |
| 5 | 27-28, 208 |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | 306-309 |
| 4 | 172-173 |
| 5 | 178-179 |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | 270-271 |
| 4 | 222 |
| 5 | 196-199 |

| Item No. | Description of Skill | Item |
|---|---|---|
| 9 | Find and continue sequence (+ 4) | Write the numeral that comes next:<br>3, 7, 11, 15 |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 3 | - | 3 | 26-27 | 3 | - |
| 4 | - | 4 | 24-25 | 4 | 24-25 |
| 5 | - | 5 | - | 5 | 5, 10-11 |

| Item No. | Description of Skill | Item |
|---|---|---|
| 10 | Functions: find rule (÷ 3); apply rule (27 ÷ 3 = 9) | Find the rule. Write the missing numeral:<br>(24,8) (15,5) (12,4) (27,9) |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 3 | 156, 244 | 3 | 155, 162, 265 | 3 | - |
| 4 | 76 | 4 | 216-221 | 4 | - |
| 5 | 241-242 | 5 | - | 5 | 8, 10-11 |

| Item No. | Description of Skill | Item |
|---|---|---|
| 11 | Problem solving: add 18 + 36 + 45 = ☐ | Lee put 18 glasses in one stack, 36 in another stack and 45 in a third stack. How many glasses in all stacks?<br>89 109 [✓ 99] 97 |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 3 | 78 (No. 5) | 3 | 214-215 | 3 | 102 (No. 34),177 (No. 3), 207 (No. 4) |
| 4 | - | 4 | 40-41 | 4 | 47 (No. 21), 53 (No. 26), 59 (No. 25), 90 (No. 4), 161, 188 (No. 28), 189 (No. 28) |
| 5 | 42 | 5 | 14-15 | 5 | 53-55 |

| Item No. | Description of Skill | Item |
|---|---|---|
| 12 | Problem solving: subtract 503 - 448 = ☐ | Maria's family has gone 448 miles. They need to go 503 miles. How many more miles must they go?<br>145 65 155 [✓ 55] |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 3 | 210, T394 | 3 | 116-117 | 3 | 109 (No. 16,17), 121 (No. 2), 123 (No. 21), 177 (No. 5), 207 (No. 3), 257 (No. 4) |
| 4 | 44 | 4 | 50-51, 54-55 | 4 | 85 (No. 25), 87 (No. 21,22), 89 (No. 23-25), 90 (No. 1-3,6), 203 (No. 2) |
| 5 | 50, 54, 191, T382 | 5 | 18-19 | 5 | 63 (No. 29,30), 66, 84 |

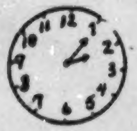
| Item No. | Description of Skill | Item |
|---|---|---|
| 13 | Problem Solving: divide 65 ÷ 5 = ☐ | One pizza is enough for 5 children. How many pizzas are needed for 65 children?<br>70 11 325 [✓ 13] |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | 157 (No. 1,3,4), 158, 225 (No. 2,3), 226 No. 1,2,6), 241 (No. 3,5), 242 (No. 2, 4,6), T395 (No. 2,3,6) |
| 4 | 182, 291, T384-385 |
| 5 | 119, 134, 136, 138-140 |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | 156-157, 260-263, 268-269, 296-297 |
| 4 | 98-100, 108, |
| 5 | 71 |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | 169 (No. 19-21), 172 No. 25,26), 177 (No. 1), 175 (No. 20-21), 199 (No. 32), 203 (No. 43), 247 (No. 23-25), 249 (No. 19-21), 251 (No. 23, 24), 253 (No. 17,18) |
| 4 | 141 (No. 3), 151 (No. 2,4), 199 (No. 29-33), 201 (No. 25,26) |
| 5 | 109, 111, 113, 117 (No. 25,26) |

| Item No. | Description of Skill | Item |
|---|---|---|
| 14 | Problem solving: tell time.<br>How many minutes until hour? | Look at the clock. How many more minutes until it is 3:00 ?<br>5 12 [✓ 55] 50 |

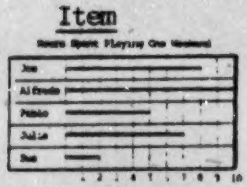


| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | 294 |
| 4 | 151-152 |
| 5 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | 320 |
| 4 | - |
| 5 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | 178-179 |
| 4 | 324-327 |
| 5 | - |

| Item No. | Description of Skill | Item |
|---|---|---|
| 15 | Interpret graph and subtract to find how many more: 8 - 2 = ☐ | How many more hours did Joe play than Sue?<br>5 7 10 [✓ 6] |



| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | 90 |
| 4 | 149-150 |
| 5 | 244, 296 |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | 122 |
| 4 | 23 |
| 5 | 222-223 |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | 284 |
| 4 | 341-343 |
| 5 | 344-345 |

## Concepts & Applications - Level IV

| Item No. | Description of Skill | Item |
|---|---|---|
| 16 | Interpret graph in Item 15 and divide: 10 ÷ 5 = ☐ | Who played just half as long as Alfredo?<br>Joe [✓ Pablo] Julia Sue |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | - |
| 4 | - |
| 5 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | - |
| 4 | - |
| 5 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | 284 |
| 4 | - |
| 5 | - |

| Item No. | Description of Skill | Item |
|---|---|---|
| 17 | Interpret graph in Item 15 and count | How many children played more than 6 hours?<br>1 2 [✓ 3] 4 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | 90 |
| 4 | 149-150 |
| 5 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | 122 |
| 4 | 23 |
| 5 | 222-223 |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | 284 |
| 4 | 341-343 |
| 5 | 344-345 |

| Item No. | Description of Skill | Item |
|---|---|---|
| 18 | Problem solving: add money, 44¢ + 5¢ + 25¢ = ☐ | Don bought a ball for 44¢, gum for a nickel and potato chips for a quarter. Without tax, how much did he spend? 69¢ 64¢ 84¢ [✓ 74¢] |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | 115-117 |
| 4 | 189-190 |
| 5 | 45-46 |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | 218-219 |
| 4 | 39 |
| 5 | 14 |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | 36-37 |
| 4 | 54 |
| 5 | - |

| Item No. | Description of Skill | Item |
|---|---|---|
| 19 | Problem solving: multiply 56 x 8 = ☐ | A box holds 8 pens. How many pens in 56 boxes?<br>8 7 [✓ 448] 6 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | 291, T395 (No. 1,4,5) |
| 4 | 105-106, 110, 112 |
| 5 | 76, 86, 92 |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | 278-279, 282-283 |
| 4 | 152-153, 198-199, 204 |
| 5 | 41 |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | 207 (No. 2), 217 (No. 17,18), 219 (No. 21-23) 221 (No. 21,22), 257 (No. 2), 269 (No. 1) |
| 4 | 154, 165 (No. 15), 169 (No. 21,22), 171 (No. 1,2,4), 181 |
| 5 | 81 (No. 31,32) |

| Item No. | Description of Skill | Item |
|---|---|---|
| 20 | Problem solving: Match number sentence to word problem | Bill had 60¢. He spent 40¢. Which sentence can you use to find how much money he has left? 60¢ + 40¢ = __ [✓ 60¢ - 40¢ = __] 40¢ - 60¢ = __ __ - 60¢ = 40¢ |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 3 | - |
| 4 | - |
| 5 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 3 | - |
| 4 | 22 |
| 5 | 26-27, 90-91 |

| Holt | |
|---|---|
| Gr | Pages |
| 3 | 56-57 |
| 4 | 32-33 |
| 5 | 19, 46-47 |

*T before a numeral refers to teacher's edition. Page references are given for the designated grade level and one grade below and one grade above.*

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| Item No. | Description of Skill | Item |
|---|---|---|
| 1 | Number patterns: find and continue sequence (-3) | 41, 38, 35, 32 |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 4 | - | 4 | 24-25 | 4 | 24-25 |
| 5 | - | 5 | - | 5 | 5 |
| 6 | - | 6 | - | 6 | 33-34 |

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| Item No. | Description of Skill | Item |
|---|---|---|
| 2 | Measurement: convert within metrics | 50 cm = .5 m<br>or .50 or $\frac{1}{2}$ |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 4 | - | 4 | - | 4 | - |
| 5 | - | 5 | 145 | 5 | 326-327 |
| 6 | - | 6 | 74, 78, 204, 250 | 6 | 257-259 |

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| Item No. | Description of Skill | Item |
|---|---|---|
| 3 | Use other numeration systems | Write the Roman numeral for 16. XVI |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 4 | - | 4 | 30 | 4 | 7-8 |
| 5 | - | 5 | 123 | 5 | 34-35 |
| 6 | - | 6 | 8-9 | 6 | 14-15 |

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| Item No. | Description of Skill | Item |
|---|---|---|
| 4 | Use base ten numeration system | Write the standard numeral for seventy thousand eighty. 70080<br>or 70,080 |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 4 | 35-36 | 4 | 11-13, 62 | 4 | 9-17 |
| 5 | 33-34 | 5 | 4-6 | 5 | 24-26 |
| 6 | 2 | 6 | 4-7 | 6 | 2-5 |

| Item No. | Description of Skill | Item |
|---|---|---|
| 5 | Round: whole numbers | Round 893 to the nearest hundred. 900 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 4 | 37, 117 |
| 5 | 37-38 |
| 6 | 39 |

| Scott | |
|---|---|
| Gr | Pages |
| 4 | 136-137, 208-209 |
| 5 | 12-13 |
| 6 | 14-15 |

| Holt | |
|---|---|
| Gr | Pages |
| 4 | 68-72 |
| 5 | 42-43 |
| 6 | 8-11 |

---

| Item No. | Description of Skill | Item |
|---|---|---|
| 6 | Measurement: time, subtract hours | How many hours from 8:00 a.m. to 10:00 p.m.? 14 hr. |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 4 | - |
| 5 | - |
| 6 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 4 | - |
| 5 | - |
| 6 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 4 | 326-327 |
| 5 | - |
| 6 | - |

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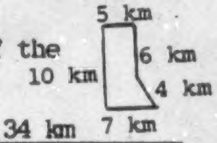
| Item No. | Description of Skill | Item |
|---|---|---|
| 7 | Geometry and measurement: find perimeter of pentagon (metric units) | What is the perimeter of the figure at the right?<br>22 km 30 km [✓ 32 km] 34 km |



| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 4 | 217-218 |
| 5 | 175, 218 |
| 6 | 177 |

| Scott | |
|---|---|
| Gr | Pages |
| 4 | 38, 265, 300 |
| 5 | 55, 209 |
| 6 | 13 |

| Holt | |
|---|---|
| Gr | Pages |
| 4 | 306-307 |
| 5 | 304-305 |
| 6 | 126 |

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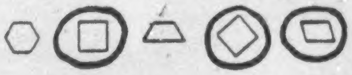
| Item No. | Description of Skill | Item |
|---|---|---|
| 8 | Geometry: identify parallelograms | Put an X on all the parallelograms. |



| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 4 | - |
| 5 | 105-107 |
| 6 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 4 | 78-80, 82 |
| 5 | 296-297 |
| 6 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 4 | - |
| 5 | 156-159 |
| 6 | 124 |

## Concepts & Applications - Level V

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**Item No.** 9

**Description of Skill:** Number theory: identify greatest common factor

**Item:** What is the greatest common factor of 8 and 14?

[✓ 2] 4 56 112

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 4 | - |
| 5 | 149-150 |
| 6 | 115 |

| Scott | |
|---|---|
| Gr | Pages |
| 4 | - |
| 5 | - |
| 6 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 4 | 152-153 |
| 5 | 186-187 |
| 6 | 146-147 |

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**Item No.** 10

**Description of Skill:** Identify greatest: fraction

**Item:** Which is the greatest?

$\frac{2}{3}$ [✓ $\frac{5}{6}$] $\frac{1}{2}$ $\frac{1}{8}$

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 4 | 22, 127-128 |
| 5 | 208, 216 |
| 6 | 97-98, 141-142 |

| Scott | |
|---|---|
| Gr | Pages |
| 4 | 332-334 |
| 5 | 196-198, 200 |
| 6 | 128-129 |

| Holt | |
|---|---|
| Gr | Pages |
| 4 | 232-236, 253-255 |
| 5 | 226-227 |
| 6 | 158-159 |

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**Item No.** 11

**Description of Skill:** Problem solving: divide 864 ÷ 6 = ☐

**Item:** There are 864 cans of juice with 6 cans in a case.

How many cases? 144

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 4 | 181-182, 291-292 |
| 5 | 133-134, 138-140 |
| 6 | 65-66 |

| Scott | |
|---|---|
| Gr | Pages |
| 4 | 98-100, 108 (2-digit by 1-digit)<br>236-237 (3-digit by 1-digit) |
| 5 | 72-75 |
| 6 | 46-47 |

| Holt | |
|---|---|
| Gr | Pages |
| 4 | 194-201 |
| 5 | 106-113, 117-119, 122 |
| 6 | 84-87 |

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**Item No.** 12

**Description of Skill:** Problem solving: add unlike fractions, $\frac{1}{4} + \frac{1}{2} = \square$

**Item:** Juan ate $\frac{1}{4}$ of a pizza; Teresa ate $\frac{1}{2}$ of it.

How much did they both eat? $\frac{3}{4}$

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 4 | - |
| 5 | 252-255 |
| 6 | 153 (No. 3-5) |

| Scott | |
|---|---|
| Gr | Pages |
| 4 | 340-341, 345 |
| 5 | 206-208 |
| 6 | 142 |

| Holt | |
|---|---|
| Gr | Pages |
| 4 | 256-257, 261 |
| 5 | 220-223 |
| 6 | 168-169 |

| Item No. | Description of Skill | Item |
|---|---|---|
| 13 | Problem solving: subtract decimals, 11.03 - 10.01 = ☐ | Dave ran a race in 11.03 seconds. Bill ran it in 10.01 seconds.<br>How much longer did it take Dave? 1.02 seconds. |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 4 | - |
| 5 | - |
| 6 | 164, 167-168 |

| Scott | |
|---|---|
| Gr | Pages |
| 4 | - |
| 5 | 158-161 |
| 6 | 90-96 |

| Holt | |
|---|---|
| Gr | Pages |
| 4 | - |
| 5 | 291-293, 295 |
| 6 | 228-229 |

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| Item No. | Description of Skill | Item |
|---|---|---|
| 14 | Problem solving: column addition, $183.50 + $129.70 + $234.65 + $385.00 = ☐ | A parking lot collected $183.50, $129.70, $234.65 and $385.00 in 4 days.<br>How much money is this in all? $932.85 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 4 | - |
| 5 | 45, 57 |
| 6 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 4 | - |
| 5 | 164 (decimals only) |
| 6 | 86-87 |

| Holt | |
|---|---|
| Gr | Pages |
| 4 | 66 |
| 5 | 56-57 (No. 13-16) |
| 6 | 39 |

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| Item No. | Description of Skill | Item |
|---|---|---|
| 15 | Problem solving: multiply money 375 x 50¢ = ☐ | 375 people paid 50¢ each to watch fireworks.<br>How much money is this in all? $187.50 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 4 | 242 |
| 5 | 86 (No. 4-6),<br>191 (No. 1,2) |
| 6 | 213, 214 (No. 2,3) |

| Scott | |
|---|---|
| Gr | Pages |
| 4 | 206-207 |
| 5 | 336-337 |
| 6 | 210-211 |

| Holt | |
|---|---|
| Gr | Pages |
| 4 | 176-177 (by 1-digit) |
| 5 | 90-91 |
| 6 | 63 (No. 21-25) |

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| Item No. | Description of Skill | Item |
|---|---|---|
| 16 | Problem solving: complete proportion, or two step: divide 15 ÷ 5 = ☐ , then multiply 3 x 10 = ☐ | Sue claps 10 times in 5 seconds.<br>At this rate, how many times will she clap in 15 seconds? 30 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 4 | - |
| 5 | - |
| 6 | 293-294 |

| Scott | |
|---|---|
| Gr | Pages |
| 4 | - |
| 5 | 104-107 |
| 6 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 4 | - |
| 5 | 208-213 (ratio only) |
| 6 | 198-200 |

## Concepts & Applications - Level V

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| Item No. | Description of Skill | Item |
|---|---|---|
| 17 | Problem solving:<br>divide 234 ÷ 18 = ☐ | There are 234 swimmers with 18 in each class.<br>How many classes? 13 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 4 | - |
| 5 | 157-168, 189-190, 195-200 |
| 6 | 67-74, 78 |

| Scott | |
|---|---|
| Gr | Pages |
| 4 | 230-234, 238-241, 244-245 |
| 5 | 78-82 |
| 6 | 48-51, 54-55 |

| Holt | |
|---|---|
| Gr | Pages |
| 4 | 206-208, 212-213 |
| 5 | 123-131, 137 |
| 6 | 92-95, 99 (29-31) |

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| Item No. | Description of Skill | Item |
|---|---|---|
| 18 | Problem solving: subtract mixed numerals, $2 - 1\frac{1}{2} = \square$ | Jerry worked on his train set for 2 hours and on his model airplane for 1½ hours.<br>How much longer did he work on the train set? ½ hr. |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 4 | 273-274 |
| 5 | 259-260, 262 |
| 6 | 136 |

| Scott | |
|---|---|
| Gr | Pages |
| 4 | - |
| 5 | 268-271 |
| 6 | 146-149 |

| Holt | |
|---|---|
| Gr | Pages |
| 4 | 268-270 |
| 5 | 240-244 |
| 6 | 179-180 |

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| Item No. | Description of Skill | Item |
|---|---|---|
| 19 | Problem solving:<br>subtract 1038 - 949 = ☐ | Last month 1,038 children at lunch at school. This month 949 ate at school.<br>How many more ate at school last month? 89 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 4 | - |
| 5 | 50 |
| 6 | 7-8, 44 |

| Scott | |
|---|---|
| Gr | Pages |
| 4 | 52-55 |
| 5 | 16-21 |
| 6 | 16-19 |

| Holt | |
|---|---|
| Gr | Pages |
| 4 | 86-94 |
| 5 | 62-66 |
| 6 | 35-38 |

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| Item No. | Description of Skill | Item |
|---|---|---|
| 20 | Problem solving:<br>find fraction of total | Steve must work 8 hours. He has already worked 3 hours.<br>What fraction of the total has he worked? $\frac{3}{8}$ |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 4 | 127, 251 |
| 5 | 26, 205 |
| 6 | 25 |

| Scott | |
|---|---|
| Gr | Pages |
| 4 | 178-179, 270-271 |
| 5 | 180-181 |
| 6 | 114-115 |

| Holt | |
|---|---|
| Gr | Pages |
| 4 | 223-224, 230-231 |
| 5 | 196-197 |
| 6 | 154 |

*T before a numeral refers to teacher's edition. Page references are given for the designated grade level and one grade below.*

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**Item No.** 1

**Description of Skill**

Numeration:
identify greatest decimal

**Item**

Which is greatest?

[✓ 0.4] 0.14 0.040 0.398

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 5 | - |
| 6 | 162, 165-166 |

| Scott | |
|---|---|
| Gr | Pages |
| 5 | 138-142, 330 |
| 6 | 66-73 |

| Holt | |
|---|---|
| Gr | Pages |
| 5 | 282-283 |
| 6 | 218-219 |

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**Item No.** 2

**Description of Skill**

Geometry:
identify type of angle

**Item**

Angle A is what kind of angle?

A ∠ [✓ acute] obtuse right left

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 5 | - |
| 6 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 5 | 284-285 |
| 6 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 5 | - |
| 6 | 110-111 |

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**Item No.** 3

**Description of Skill**

Relations: use <
to complete true sentence

**Item**

Which symbol makes this sentence true:

16 ○ 1 + 16? = [✓ <] > +

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 5 | - |
| 6 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 5 | - |
| 6 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 5 | 16-17, 47 (No. 1-12) |
| 6 | 46-47 |

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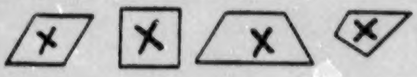
**Item No.** 4

**Description of Skill**

Geometry:
identify quadrilaterals

**Item**

Put an X on all the quadrilaterals.



| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 5 | - |
| 6 | 173-174 |

| Scott | |
|---|---|
| Gr | Pages |
| 5 | 54, 296-297 |
| 6 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 5 | 155-159 |
| 6 | 124 |

H-34

## Concepts & Applications - Level VI

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**Item No.** 5

**Description of Skill**

Numeration: fractions, simplify to mixed numeral

**Item**

Which equals $\frac{53}{6}$ ?

$5\frac{3}{6}$ [✓ $8\frac{5}{6}$] $53 - \frac{1}{6}$ $9\frac{1}{6}$

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 5 | 225-226, 228-229 |
| 6 | 107-108, 127 |

| Scott | |
|---|---|
| Gr | Pages |
| 5 | 250-253 |
| 6 | 124-126 |

| Holt | |
|---|---|
| Gr | Pages |
| 5 | 232-233 |
| 6 | 174-176 |

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**Item No.** 6

**Description of Skill**

Problem solving: match number sentence to word problem

**Item**

There are 16 shelves. Each has 12 boxes on it. Each box holds 32 games. Which sentence tells how many games are on the shelves?

(16 x 12) + (16 x 32)= ___

16 x 12 + 32 = ___

[✓ 16 x 12 x 32 = ___]

(32 x 12) + 16 = ___

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 5 | - |
| 6 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 5 | 26-27 (add. equations)<br>90-91 (mult. equations)<br>166-167 (missing addend equations) |
| 6 | 22-23 (missing addend equations)58-59 (missing factor equations)98-99 (missing addend equations),122 |

| Holt | |
|---|---|
| Gr | Pages |
| 5 | 19, 46-47 |
| 6 | 32, 56-57 |

---

**Item No.** 7

**Description of Skill**

Percent: identify percent form for common fraction

**Item**

What is the percent form for $\frac{1}{25}$ ?

25% .4% [✓ 4%] .04%

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 5 | - |
| 6 | 169, 221-228 |

| Scott | |
|---|---|
| Gr | Pages |
| 5 | - |
| 6 | 262-269 |

| Holt | |
|---|---|
| Gr | Pages |
| 5 | - |
| 6 | 276-278 |

---

**Item No.** 8

**Description of Skill**

Numeration: match exponential form with expanded form

**Item**

Another name for $2^3$ is:

[✓ 2 x 2 x 2] 2 x 2 2 x 3 2 + 2 + 2

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 5 | - |
| 6 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 5 | - |
| 6 | 108-109 |

| Holt | |
|---|---|
| Gr | Pages |
| 5 | - |
| 6 | 6-7 |

**Item No.** 9

**Description of Skill**
Probability: identify simple probability

**Item**
Joe, Mary, Fred and Linda line up in single file. What is the probability that Mary is first? $\frac{1}{2}$ $\frac{1}{3}$ [✓ $\frac{1}{4}$] $\frac{2}{4}$

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 5 | - |
| 6 | 230 |

| Scott | |
|---|---|
| Gr | Pages |
| 5 | 181 (No. 17-20), 202, 218-219, 312-313 |
| 6 | 134-135, 182-183 |

| Holt | |
|---|---|
| Gr | Pages |
| 5 | 264-265 |
| 6 | 202-204 |

---

**Item No.** 10

**Description of Skill**
Geometry: identify point by definition

**Item**
If two different lines intersect, their intersection is a (an):
angle [✓ point] line segment straight line

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 5 | - |
| 6 | - |

| Scott | |
|---|---|
| Gr | Pages |
| 5 | 282-283 |
| 6 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 5 | 144-145 |
| 6 | 108 |

---

**Item No.** 11

**Description of Skill**
Problem solving: multiply money, \$5.50 x 93 = ☐

**Item**
The Girl Scouts sold 93 Christmas trees for \$5.50 each. How much money did they get in all? $511.50

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 5 | 86 (No. 4-6), 191 (No. 1,2,5), 195 (No. 5) |
| 6 | 203-209 (decimals only), 213-221 |

| Scott | |
|---|---|
| Gr | Pages |
| 5 | 334-337 |
| 6 | 210-211 |

| Holt | |
|---|---|
| Gr | Pages |
| 5 | 82 (No. 3a-d), 83 (No. 31,32), 91 |
| 6 | 63 (No. 21-25), 90 (No. 29-30) |

---

**Item No.** 12

**Description of Skill**
Problem solving: use ratio

**Item**
In a class of 36 pupils the ratio of girls to boys is 2 to 1. How many boys are in the class? 12

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 5 | - |
| 6 | 293-294 |

| Scott | |
|---|---|
| Gr | Pages |
| 5 | 104-107 |
| 6 | 306-321 |

| Holt | |
|---|---|
| Gr | Pages |
| 5 | 208-213 |
| 6 | 198-201 |

| Item No. | Description of Skill | Item |
|---|---|---|
| 13 | Problem solving: 2-step; multiply \$1.50 x 4 = ☐ and multiply \$6.00 x 5 = ☐ | Mike earns \$1.50 per hour. One week he worked 4 hours each day, Monday through Friday. How much did he earn that week? \$ 30.00 |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 5 | - | 5 | - | 5 | 82 (No. 3a-d), 83 (No. 31,32) (all 1-step only) |
| 6 | 203-209 (1-step, decimals only), 213-214 (1-step only) | 6 | 210-211 (1-step only), 206 (1-step only) | 6 | 231 (No. 33-35, 1-step only) |

| Item No. | Description of Skill | Item |
|---|---|---|
| 14 | Problem solving: multiply decimals, 48 x .3 = ☐ | A toy locomotive is .3 meters long. The real locomotive is 48 times as long. How many meters long is the real locomotive? 14.4 meters |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 5 | - | 5 | - | 5 | - |
| 6 | 203-205 | 6 | - | 6 | 230-231 |

| Item No. | Description of Skill | Item |
|---|---|---|
| 15 | Problem solving: complete proportion, $\frac{800}{2} = \frac{x}{8}$ or 2-step; divide 800 ÷ 2 = ☐ and multiply 400 x 8 = ☐ | If a plane flew at the rate of 800 miles in 2 hours how far would it fly in 8 hours? 3200 miles |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 5 | - | 5 | 104-107 | 5 | 208-213 |
| 6 | 293-294 | 6 | 306-321 | 6 | 198-201 |

| Item No. | Description of Skill | Item |
|---|---|---|
| 16 | Problem solving: 2-step; add unlike fractions, $\frac{1}{3} + \frac{1}{2}$ = ☐ and subtract fraction from whole number, $1 - \frac{5}{6}$ = ☐ | If Jim gets $\frac{1}{3}$ and Abby gets $\frac{1}{2}$ of a large candy bar, how much is left? $\frac{1}{6}$ |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 5 | 255 (1-step only) | 5 | 206-207, 216-217 | 5 | 220-223, 242-243, 245 |
| 6 | 153-154 (1-step only), 199 (1-step only) | 6 | 142, 148 | 6 | 168-169, 179-180, 181 |

Concepts & Applications - Level VI

**Item No.** 17

**Description of Skill**

Problem solving: divide money to find average, $412.32 ÷ 8 = ☐

**Item**

The Garcias spent $412.32 during their 8-day vacation. What was the average cost per day? $51.57

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 5 | 192 |
| 6 | 277 (No. 4,5), 278 |

| Scott | |
|---|---|
| Gr | Pages |
| 5 | - |
| 6 | 252-253 |

| Holt | |
|---|---|
| Gr | Pages |
| 5 | 138-139 |
| 6 | 79 (No. 28-30,32), 83 (No. 28-30), 97 |

---

**Item No.** 18

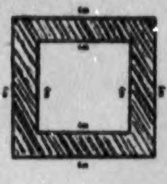
**Description of Skill**

Problem solving: geometry and measurement, 3-step; multiply 6 x 6 = ☐ , multiply 4 x 4 = ☐ , subtract 36 - 16 = ☐

**Item**

Find the area of the shaded region.

Area: 20 m²



| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 5 | 177-181, 218 (all 1-step only) |
| 6 | 179-180 (1-step only) |

| Scott | |
|---|---|
| Gr | Pages |
| 5 | 58-59, (1-step only) |
| 6 | 162-167 (1-step only) |

| Holt | |
|---|---|
| Gr | Pages |
| 5 | 307-309 (1-step only) |
| 6 | 292-293 (1-step only) |

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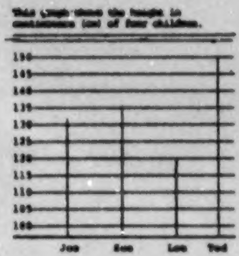
**Item No.** 19

**Description of Skill**

Problem solving: interpret graph. Measurement: round to nearest unit given

**Item**



Who is nearest to 135 cm tall? Sue

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 5 | 244, 264, 296 |
| 6 | 3 |

| Scott | |
|---|---|
| Gr | Pages |
| 5 | 222-224 |
| 6 | 264-265 |

| Holt | |
|---|---|
| Gr | Pages |
| 5 | 344-345 |
| 6 | 326-327 |

---

**Item No.** 20

**Description of Skill**

Interpret graph in Item 19.

Computation and measurement: find average of 2 heights

**Item**

What is the average height of Lou and Ted? 135 cm

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 5 | 201-202 |
| 6 | 292 |

| Scott | |
|---|---|
| Gr | Pages |
| 5 | 76-77 |
| 6 | 56-57 |

| Holt | |
|---|---|
| Gr | Pages |
| 5 | 140-141 |
| 6 | 104 |

## Level VII

*T before a numeral refers to teacher's edition. Page references are given for the designated grade level and one grade below.*

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**Item No.** 1

**Description of Skill**

Numeration: identify correct decimal numeral

**Item**

Make an X on the decimal numeral for twenty and sixty-five thousandths.

20.65 .2065 20.0065 [✓ 20.065]

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 6 | 159-162 |
| 7 | 24-27, 188-192 |

| Scott | |
|---|---|
| Gr | Pages |
| 6 | 66-69 |
| 7 | 88 |

| Holt | |
|---|---|
| Gr | Pages |
| 6 | 212-215 |
| 7 | 188-191 |

---

**Item No.** 2

**Description of Skill**

Ratio and proportion: identify pairs of ratios ≠ proportion

**Item**

Make an X on each pair of ratios that is not a proportion.

$\frac{8}{12}$ $\frac{16}{24}$ $\frac{7}{21}$ $\frac{10}{30}$ [✓ $\frac{3}{4}$ $\frac{16}{24}$] [✓ $\frac{5}{6}$ $\frac{8}{9}$]

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 6 | 293-294 |
| 7 | 256-257 |

| Scott | |
|---|---|
| Gr | Pages |
| 6 | - |
| 7 | 262-263 |

| Holt | |
|---|---|
| Gr | Pages |
| 6 | - |
| 7 | 154-155 |

---

**Item No.** 3

**Description of Skill**

Numeration: identify prime numbers

**Item**

Make an X on all the prime numbers.

[✓ 3] 12 [✓ 19] 22 [✓ 37]

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 6 | 119 |
| 7 | 117-118 |

| Scott | |
|---|---|
| Gr | Pages |
| 6 | 104-105 |
| 7 | 200-201 |

| Holt | |
|---|---|
| Gr | Pages |
| 6 | 140-141 |
| 7 | 124-127 |

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**Item No.** 4

**Description of Skill**

Probability: find probability using 2 coins

**Item**

If you toss 2 pennies one time what is the probability of getting 2 heads?

1 $\frac{1}{2}$ [✓ $\frac{1}{4}$] $\frac{1}{3}$

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 6 | - |
| 7 | 360-363 |

| Scott | |
|---|---|
| Gr | Pages |
| 6 | - |
| 7 | 332-335 |

| Holt | |
|---|---|
| Gr | Pages |
| 6 | 202-206 |
| 7 | 358-360, 362-363 |

## Concepts & Applications - Level VII

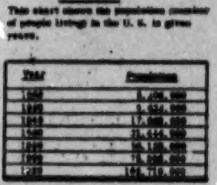
| Item No. | Description of Skill | Item |
|---|---|---|
| 5 | Problem solving: money, 2-step; divide and select | Which is the best buy for the money?<br>[✓ 4 cans for 53¢] 5 cans for 72¢<br>3 cans for 45¢ 6 cans for 84¢ |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 6 | 213 (No. 4), 214 (No. 1), 278 |
| 7 | 253 (No. 4,5) |

| Scott | |
|---|---|
| Gr | Pages |
| 6 | 252-253 |
| 7 | 272-273 |

| Holt | |
|---|---|
| Gr | Pages |
| 6 | 97, 201 |
| 7 | 3 (No. 5) |

| Item No. | Description of Skill | Item |
|---|---|---|
| 6 | Problem solving: interpret chart.<br>Round and subtract,<br>105,000,000 - 5,000,000 = ☐ | About how many more people lived in the U.S. in 1920 than in 1800?<br>100,000 1,000,000 [✓ 100,000,000]<br>110,000,000 1,000,000,000 |



| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 6 | 33 |
| 7 | 33-35 |

| Scott | |
|---|---|
| Gr | Pages |
| 6 | - |
| 7 | 344-345, 350-351 |

| Holt | |
|---|---|
| Gr | Pages |
| 6 | 8-11 |
| 7 | 18-19 |

| Item No. | Description of Skill | Item |
|---|---|---|
| 7 | Interpret chart in Item 6.<br>Round, subtract and select | During which 20 years shown did the population grow the most?<br>1800-1820 1840-1860 1860-1880<br>1880-1900 [✓ 1900-1920] |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 6 | 3 |
| 7 | 352-355 |

| Scott | |
|---|---|
| Gr | Pages |
| 6 | - |
| 7 | 350-351 |

| Holt | |
|---|---|
| Gr | Pages |
| 6 | 320-323 |
| 7 | 81, 374-375 |

| Item No. | Description of Skill | Item |
|---|---|---|
| 8 | Numeration: use base ten system | Write the standard numeral for one hundred ninety million, eight thousand thirty. 190,008,030 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 6 | 2, 33 |
| 7 | 30 |

| Scott | |
|---|---|
| Gr | Pages |
| 6 | 6-7 |
| 7 | 26 |

| Holt | |
|---|---|
| Gr | Pages |
| 6 | 2-5 |
| 7 | 12 |

## Concepts & Applications - Level VII

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| Item No. | Description of Skill | Item |
|---|---|---|
| 9 | Numeration: round | Round 187,792 to the nearest hundred. 187,800 |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 6 | 39 | 6 | 14 | 6 | 8-11 |
| 7 | 33-35 | 7 | 8-9 | 7 | 18-19 |

---

| Item No. | Description of Skill | Item |
|---|---|---|
| 10 | Number theory: find prime factorization | What is the prime factorization of 54? $2 \times 3 \times 3 \times 3$ |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 6 | 120 | 6 | 106-107 | 6 | 142-143 |
| 7 | 119 | 7 | 204-205 | 7 | 128-129 |

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| Item No. | Description of Skill | Item |
|---|---|---|
| 11 | Problem solving: complete proportion, $\frac{15}{20} = \frac{36}{x}$ | A model of a building is 15 centimeters long and 20 centimeters high. The actual building is 36 meters long. What is the actual building's height? 48 meters |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 6 | 293-294 | 6 | 306-321 | 6 | 198-201 |
| 7 | 256-261 | 7 | 262-269 | 7 | 154-155, 157 |

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| Item No. | Description of Skill | Item |
|---|---|---|
| 12 | Problem solving: 2-step; round and divide, 100,000 ÷ 20,000 = ☐ | There are 102,081 registered German shepherds and 20,123 registered collies. There are about how many times as many German shepherds as collies? 5 |

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 6 | 39 | 6 | 14 | 6 | 8-11 |
| 7 | 33-35 | 7 | 8-9, 116-117 | 7 | 18-19 |

| Item No. | Description of Skill | Item |
|---|---|---|
| 13 | Problem solving: 2-step; find percentage and subtract, $120 - $18 = ☐ | Joe gets a 15% discount. How much would he pay for a bike that regularly sells for $120? (Note: Don't include sales tax.) $102 or $102.00 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 6 | 283, 285-290 |
| 7 | 280-281, 298 |

| Scott | |
|---|---|
| Gr | Pages |
| 6 | 270-271, 276-277 |
| 7 | 284-287 |

| Holt | |
|---|---|
| Gr | Pages |
| 6 | 274-277, 282-285 |
| 7 | 222-223, 230-231 |

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| Item No. | Description of Skill | Item |
|---|---|---|
| 14 | Problem solving: find percentage | If a dog's body contains 5 pints of blood and 80% of the blood is water, how many pints of water are in the blood?<br>4 pints |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 6 | 283, 285-290 |
| 7 | 280-281, 285 |

| Scott | |
|---|---|
| Gr | Pages |
| 6 | 262-271 |
| 7 | 282-283, 288-289 |

| Holt | |
|---|---|
| Gr | Pages |
| 6 | 274-275, 281-283 |
| 7 | 222-223 |

---

| Item No. | Description of Skill | Item |
|---|---|---|
| 15 | Problem solving: measurement, scale drawings, complete proportion, $\frac{8.8}{x} = \frac{2}{5}$ or 2-step; divide 5 ÷ 2 = ☐ and multiply 8.8 x 2.5 = ☐ | On a map, the distance between two cities is 8.8 cm. The scale on the map is 2 cm = 5 km. What is the actual distance between the cities?<br>22 km |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 6 | 16, 110, 209-210, 293-294 |
| 7 | 254-255, 267, 316-318 |

| Scott | |
|---|---|
| Gr | Pages |
| 6 | 195-197, 320-321 |
| 7 | 270-271 |

| Holt | |
|---|---|
| Gr | Pages |
| 6 | 198-201, 257-259, 316-317 |
| 7 | 154-155, 157, 204-205 |

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| Item No. | Description of Skill | Item |
|---|---|---|
| 16 | Problem solving: divide money, $10,055,750 ÷ 365 = ☐ | During 1975 (a non-leapyear) an airline company spent $10,055,750 for capital improvements. How many dollars per day was that? $27,550 |

| Houghton Mifflin | |
|---|---|
| Gr | Pages |
| 6 | 277 (No. 4,5) |
| 7 | 73 (No. 3) |

| Scott | |
|---|---|
| Gr | Pages |
| 6 | 252-253 |
| 7 | - |

| Holt | |
|---|---|
| Gr | Pages |
| 6 | 97 |
| 7 | 112 (No. 6),<br>351 (No. 3) |

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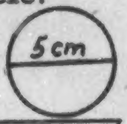
**Item No.** 17

**Description of Skill**

Problem solving: geometry and measurement, 2-step; given diameter, use formula to find area of circle and round

**Item**

What is the area of this circle? Use 3.14 for π. Give the answer to the nearest tenth.



19.6 $cm^2$

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 6 | | 6 | - | 6 | 304-305 |
| 7 | 220-221 | 7 | 166-168 | 7 | 292-293 |

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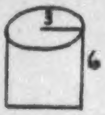
**Item No.** 18

**Description of Skill**

Problem solving: geometry and measurements, use formula to find volume of cylinder

**Item**

What is the volume of this cylinder? Use 3.14 for π. Give the answer to the nearest square unit. 170 cu. units



| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 6 | - | 6 | - | 6 | 306-309 |
| 7 | 227-228 | 7 | 182-185 | 7 | 294-296 |

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**Item No.** 19

**Description of Skill**

Problem solving: statistics, 2-step; add and divide to find mean

**Item**

Twelve students had these scores on a science test

| | | | | | |
|---|---|---|---|---|---|
| 76 | 84 | 90 | 64 | 82 | 72 |
| 84 | 76 | 98 | 88 | 84 | 86 |

What is the mean score? 82

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 6 | 292 | 6 | - | 6 | - |
| 7 | 366-367 | 7 | 352-353 | 7 | 370-371 |

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**Item No.** 20

**Description of Skill**

Refer to statistics in Item 19. 2-step; list and count to find median

**Item**

What is the median score? 84

| Houghton Mifflin | | Scott | | Holt | |
|---|---|---|---|---|---|
| Gr | Pages | Gr | Pages | Gr | Pages |
| 6 | - | 6 | - | 6 | - |
| 7 | 366-367 | 7 | 354-355 | 7 | 370-371 |

## CHULA VISTA PRESCRIPTIVE MATHEMATICS PROGRAM

## ERROR ANALYSIS IN COMPUTATION

The diagnosis of pupil errors in computation is a vital part of evaluation in mathematics. It is surely more important to analyze pupils' work to find out what errors they make and why they make them than it is simply to mark problems right or wrong. Previous sections of this guide have referred to prescriptions for diagnosed needs; this section is concerned with the errors themselves.

Teachers need to observe and listen to children to find precisely which kind of examples they can and cannot do and what procedures they use. Often the scoring techniques used do not attempt to get this kind of information.

### Types of Computational Errors

1. Incorrect operation. The pupil adds instead of subtracting, divides instead of multiplying, etc.
2. Obvious computational error. Although the pupil uses the correct operation, he makes an error in basic facts, e.g., $\begin{array}{r} 18 \\ \times 7 \\ \hline 124 \end{array}$

   Here, the pupil's error is a basic fact: 7 x 8 = 56, not 54.
3. Error in procedure (algorithm). The pupil uses the correct operation, but has difficulty with the actual procedure (algorithm) for finding the answer, e.g., $\begin{array}{r} 37 \\ +26 \\ \hline 513 \end{array}$

   Here, the pupil's basic facts are correct (7 + 6 = 13 and 3 + 2 = 5). The error is in not regrouping the 13 ones as 1 ten and 3 ones to give the correct answer, 63.
4. Guessing. Sometimes pupils simply guess an answer. There appears to be no relationship between it and the problem, or the problem may be set up with multiple-choice options and the pupil guesses one of these options.
5. Illegible or confusing writing. Often pupils' written work is illegible, even to themselves. Problems may be marked wrong when they are, in fact, correct but the writing is difficult to read (Figure I). Even the pupil may be fooled by his own writing and, because of poor recording, make errors. A pupil who copies a problem from a book as shown in Figure II is likely to have difficulty getting the correct answer.

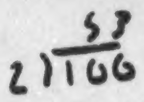

Fig. I

997

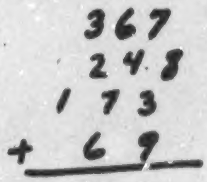

Fig. II

## Types of Computational Errors (Cont.)

Roberts* found that all pupils make, careless errors and forget basic facts. However, using the incorrect operation and guessing were observed more often with pupils of low ability and less with those of higher ability. He also found that the greatest number of errors was due to Item 3, Error in Procedure (Algorithm) in all groups except the lowest quartile which had more errors through guessing. This finding is supported by many other researchers.

*Gerhard H. Roberts, "The Failure Strategies of Arithmetic Pupils," The Arithmetic Teacher, 15 (May 1968): 442-446.

## Preventing Computational Errors

What then can teachers do to help pupils prevent or remedy errors? Obviously, the most important thing is to help keep them from making errors in the first place. Often pupils are quick to learn a faulty rule. They make an error in the beginning and immediately begin practicing it.. It is far more difficult to remedy this error once a child has learned it than it is to teach him correctly for the first time.

What can be done to prevent children from learning and practicing errors? One very helpful technique is to withhold drill or practice until the child has learned the desired process. Drill activities should not be used at a time when they merely reinforce processes which are developmental since drill reinforces and makes more efficient that which a child actually practices. (If a child counts on his fingers to find a sum, drill at this point will only tend to help him count on his fingers more efficiently.)

The following guidelines may also be of help in diagnosing the nature, extent and possible causes of errors:

### Guidelines for Diagnosis and Remediation

1. When diagnosing, do not correct or instruct the child. This is the time to listen, and be accepting...the time to collect data.
2. Be thorough; look for patterns, repeated applications of an error, not isolated occurrences.
3. Ask the pupil to explain his work, but do not expect too many answers, especially if the child is young. It is very difficult to investigate a child's thinking process. In a way, it is unfortunate that children speak so well so early. Because they sound like we do, we assume that they think like we do. They do not. Of, if you ask children why they

## Preventing Computational Errors (Cont.)

### Guidelines for Diagnosis and Remediation (Cont.)

did a given thing and the response is utter silence or they say that they do not know, believe them...they don't know. In fact, they often want you to tell them why they did what they did. It is necessary, then, to observe children carefully, take running notes, listen to every word, etc.

4. Protect and strengthen the children's self-images at all costs, especially those who have experienced failure. It is most important that children feel capable and believe they can succeed.
5. Give practice activities that provide immediate feedback (confirmation of the correct answer).
6. Spread practice over short periods of time.
7. Use a variety of instructional procedures and activities. There is no one way to learn. It is especially important to provide procedures which are different from the way the child was previously instructed if the difficulty lies in the child's understanding or applying this procedure.
8. Encourage children to use materials; if possible, let them select from materials available the means they wish to use to meet the goal.
9. Provide children a means by which they can observe their progress.
10. Tie new learnings to old; emphasize ideas which help children organize what they learn.
11. Stress estimating, checking answers for reasonableness.
12. ABOVE ALL, HAVE CHILDREN CHECK...GO OVER...THEIR WORK. There is much evidence which shows that this is one of the best ways for children to experience more success.

### Typical Examples of Error Patterns in Computation with Whole Numbers

1. Addition: 2-digit and 1-digit, no regrouping.

$$\begin{array}{r} 46 \\ +\ 2 \\ \hline 12 \end{array}$$

Pupil adds each digit separately (6 + 2 + 4 = 12).

$$\begin{array}{r} 46 \\ +\ 2 \\ \hline 68 \end{array}$$

Pupil adds the lower 1-digit addend to both numbers in the upper addend (6 + 2 = 8; 4 + 2 = 6).

$$\begin{array}{r} 46 \\ +\ 2 \\ \hline 58 \end{array}$$

Pupil regroups ("carries") a ten unnecessarily.

## Typical Examples of Error Patterns in Computation with Whole Numbers (cont.)

2. Addition: 2-digit and 2-digit, regrouping.

$$\begin{array}{r} 48 \\ +\ 3 \\ \hline 411 \end{array}$$ Pupil does not regroup.

$$\begin{array}{r} \overset{1}{4}8 \\ +\ 3 \\ \hline 41 \end{array}$$ Pupil regroups, but fails to add the regrouped ten.

$$\begin{array}{r} 48 \\ +\ 3 \\ \hline 45 \end{array}$$ Pupil performs incorrect operation (subtracts).

$$\begin{array}{r} \overset{1}{4}8 \\ +\ 3 \\ \hline 52 \end{array}$$ Pupil has basic fact error (8 + 3 = 11, not 12).

3. Addition: 3-digit and 2-digit, regrouping.

$$\begin{array}{r} \overset{1}{4}76 \\ +\ 17 \\ \hline 583 \end{array}$$ Pupil renames 1 ten, but regroups it with the hundreds rather than the tens.

$$\begin{array}{r} 4\overset{1}{7}6 \\ +\ 17 \\ \hline 483 \end{array}$$ Pupil fails to add the regrouped ten.

4. Subtraction: 1-digit from 2-digit, no regrouping.

$$\begin{array}{r} 37 \\ -\ 2 \\ \hline 5 \end{array}$$ Pupil fails to subtract tens.

$$\begin{array}{r} 37 \\ -\ 2 \\ \hline 39 \end{array}$$ Pupil performs incorrect operation (adds).

$$\begin{array}{r} 37 \\ -\ 2 \\ \hline 15 \end{array}$$ Pupil subtracts lower addend from both digits in upper addend (7 - 2 = 5; 3 - 2 = 1).

5. Subtraction: 2-digit from 2-digit, regrouping.

$$\begin{array}{r} 53 \\ -14 \\ \hline 41 \end{array}$$ Pupil reverses the digits; subtracts the upper from the lower.

$$\begin{array}{r} \overset{1}{\cancel{2}}9 \\ -11 \\ \hline 218 \end{array}$$ Pupil regroups unnecessarily.

## Typical Examples of Error Patterns in Computation with Whole Numbers (cont.)

6. Subtraction: Zeroes in upper addend, regrouping.

$$\begin{array}{r} {}^{4}\cancel{5} \\ \cancel{5}0{}^{1}2 \\ -478 \\ \hline 34 \end{array}$$

Pupil regroups hundred's digit two times; fails to regroup tens.

$$\begin{array}{r} {}^{4}\cancel{5}0{}^{1}2 \\ -478 \\ \hline 174 \end{array}$$

Pupil regroups hundred's digit, but not ten's digit; pupil reverses ten's digits.

7. Multiplication: 1-digit and 2-digit, no regrouping.

$$\begin{array}{r} 43 \\ \times\ 2 \\ \hline 46 \end{array}$$

Pupil fails to multiply ten's digit.

8. Multiplication: 1-digit and 2-digit, regrouping.

$$\begin{array}{r} {}^{1}47 \\ \times\ 2 \\ \hline 44 \end{array}$$

Pupil multiplies the number regrouped (1) by the ten's digit (4 x 1)

$$\begin{array}{r} {}^{1}47 \\ \times\ 2 \\ \hline 104 \end{array}$$

Pupil adds the regrouped ten (4 + 1 = 5) before multiplying the ten's digit.

$$\begin{array}{r} 47 \\ \times\ 2 \\ \hline 814 \end{array}$$

Pupil does not regroup.

$$\begin{array}{r} 30 \\ \times\ 6 \\ \hline 186 \end{array}$$

Pupil makes basic fact error (6 x 0 = 0, not 6, pupil confuses multiplication with zero with addition with zero: 6 + 0 = 6; 6 x 0 = 0).

9. Division:

$$\begin{array}{r} 30 \\ 25\overline{)75} \\ \underline{75} \\ 0 \end{array}$$

Pupil divides a remainder (0 ÷ 25 = 0); misinterprets place value in quotient.

$$\begin{array}{r} 37 \\ 25\overline{)75} \\ \underline{-6\ } \\ 15 \\ \underline{-14} \\ 1 \end{array}$$

Pupil uses short division algorithm; divides only by the ten's digit (2), ignores the one's digit (5).

$$\begin{array}{r} 3\ 6 \\ 4\overline{)1224} \end{array}$$

Pupil omits ten's place (0) in quotient.

Typical Examples of Error Patterns in Computation with Whole Numbers (cont.)

The foregoing examples illustrate but a few of the countless possible computational errors with whole numbers. They are listed here only as a reminder of the myriad of ways errors can be made and practiced and, therefore, of the importance of preventing, finding and remedying these errors.